THE MAGAZINE OF

Standards

. . . shed light on confusion — page 295

OCTOBER 1958

THE MAGAZINE OF
Standards

Published monthly by the
AMERICAN STANDARDS ASSOCIATION
INCORPORATED
70 East Forty-fifth St., New York 17, N.Y.

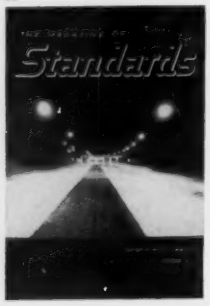
VOL. 29 OCTOBER, 1958 No. 10

ASA Officers
H. Thomas Hallowell, Jr, *President*
J. R. Townsend, *Vice President*
Vice Admiral G. F. Hussey, Jr, USN (Ret) *Managing Director and Secretary*
Cyril Ainsworth, *Deputy Managing Director and Assistant Secretary*
J. W. McNair, *Technical Director and Assistant Secretary*

Ruth E. Mason, *Editor*
Ilene Johnson, *Art and Production Editor*

ASA

Our Cover



Mercury vapor lamps light the Pennsylvania Turnpike. This comparatively new type of lamp is being used increasingly for highway lighting, recommended as offering more light per dollar. Many new lighting developments during the past 10-12 years center around this type of lamp, reports indicate. With increasingly widespread use, confusion in lamp identification has increased. Now, a standard designation system will help identify interchangeable lamps (see article on page 295). Photo courtesy of Westinghouse.

ASA

Single copy 60¢. $7.00 per year (foreign $8.00). Schools and libraries $5.00 (foreign $6.00). Re-entered as second class matter Jan. 25, 1964, at the Post Office, New York, N. Y., under the Act of March 3, 1879.

This publication is indexed in the Engineering Index and the Industrial Arts Index.

Opinions expressed by authors in* THE MAGAZINE OF STANDARDS *are not necessarily those of the American Standards Association.

FEATURES

The Army Ordnance Corps and Standardization
By Major General J. H. Hinrichs 288
The Army's Chief of Ordnance describes the work the Ordnance Corps is doing to apply standards for economy and interchangeability.

Chasing the Nonessential. *By Edwin W. Ely* 292
The Commodity Standards Division of the U.S. Department of Commerce combines development of simplified practice recommendations and commercial standards. The Division's chief tells how it works and describes the differences between the two.

Shed Light on Confusion. *By Mario Pisciotta and W. S. Till* 295
New designation system for mercury vapor lamps simplifies purchasing and helps lamp user order correct lamp for his fixture. American Standards Association assigns and coordinates lamp designations.

More Standards Are Needed for Consumer Appliances 298
Panel of experts representing electrical and gas appliance manufacturers, testing laboratories, consumer organizations, and home economists tell what is now being done on appliances for consumer use and why they think faster work is needed.

Ninth National Conference on Standards
(Standardization—What's In It for Me?) 300
The preliminary program for the Ninth National Conference on Standards, Hotel Roosevelt, New York, November 18-20, 1958.

Carbide Blanks and Cutting Tools. *By W. H. Seacord* 302
How industry participated in the review and revision of the American Standard on single point tools and tool posts to develop the American Standard Carbide Blanks and Cutting Tools. The vice-chairman of Committee B5 analyzes the changes made in the revised edition.

A Reader Speaks for Drawing Simplification 304
W. N. Gittings comments on George Noble's plea for use of ABC drafting standards.

Are These Cases Work Injuries? 306
Fourteenth in the series of rulings on unusual accident cases, issued by the Committee on Interpretations to help industry record and measure work-injury experience in a uniform manner.

NEWS

News Briefs 308
What's New on American Standards Projects 314

COLUMNS

DINNSA (Does Industry Need a National Standards Agency?)
By Cyril Ainsworth 315

DEPARTMENTS

This Month's Standards Personality 287
Through History With Standards 305
Standards From Other Countries 310
American Standards Under Way. Status as of September 18 312
Published Standards Now Available 313

. . . . marginal notes

• **Often the question is asked** "What relation does ASA have to the Federal Government?" The answer is: "As far as financial support is concerned, none. But as far as cooperative relations are concerned, a great deal."

The Defense Department, the Department of Commerce, the Departments of Agriculture, Labor, and Health, Education, and Welfare, not to mention the National Bureau of Standards and the General Services Administration, are not only working harder than ever before on standards for their own use but are also represented and active on many of the sectional committees organized under the procedures of the American Standards Association. This is in addition to representation on standards committees of the American Society for Testing Materials, the National Electrical Manufacturers Association, and other national associations and technical societies. Many of the bureaus, divisions, and departments of the Federal Government also furnish experts who act as technical advisors to committees of the International Electrotechnical Commission and the International Organization for Standardization and serve as USA delegates at international meetings on standards.

In this issue, Major General J. H. Hinrichs, chief of the Army's Ordnance Corps, tells about the standardization work of his organization (page 288). The Corps itself has furnished representatives of the Department of Defense on 30 sectional committees. These include such important committees as ball and roller bearings, B3; small tools and machine tool elements, B5; and drawings and drafting practice, Y14, in all of which the Department of Defense is taking an especially active part.

Also from the Federal Government, Edwin W. Ely, one of this country's pioneers in national standardization, describes his Division's methods and accomplishments in developing simplified practices and commercial standards (page 292). The Commodity Standards Division of which Mr Ely is chief, has representation on a number of sectional committees, including iron and steel pipe, B36; petroleum and petroleum products, Z11; and rayon and acetate fabrics, L22.

• **Of special interest**—The theme of the Ninth National Conference of Standards, "Standardization — What's In It for Me?" promises valuable ideas for everyone (see preliminary program, page 300).

• **Next Month**—a special report on the Standards Engineers Society's three-day meeting, September 22-24.

This Month's Standards Personality

RAYMOND E. HESS, associate executive secretary of the American Society for Testing Materials, has spent practically his entire professional career directly and closely associated with standardization activities. As technical secretary of the Society and editor in chief of all ASTM publications, Mr Hess has had his fingers on the pulse of the largest voluntary standards-producing organization in the world for almost four decades.

In addition to having direct responsibility for contacts with the 80-odd ASTM technical committees, Mr Hess has given much attention to the work of the ASTM Administrative Committee on Standards, of which he is secretary, and the Administrative Committee on Papers and Publications, on which he serves as chairman. He still takes a great interest in the activities of the Administrative Committees on End Use Products and on Simulated Service Testing, on which he served as secretary from the time of the committees' organization in 1945 until 1956.

Mr Hess is an exacting editor. It is largely through his example, leadership, and attention to editorial detail and propriety that the many ASTM publications have achieved and maintained through the years the high editorial quality for which they are noted. This quality may be appreciated even more when one considers the voluminous material produced by a relatively small editorial staff in a single year. In the period April 16, 1958, to April 15, 1959, for example, over 20,000 pages will be published.

Mr Hess' long experience, judgment, and counsel on standardization activities have been projected to many standardization groups outside ASTM. For many years he has served as alternate on the ASA Standards Council and nine of the ASA Standards Boards. He is ASTM representative on many ASA sectional committees not sponsored by ASTM and currently is secretary of Sectional Committees L14 on Textile Test Methods and A37 on Road and Paving Materials, two of 14 ASTM-sponsored ASA sectional committees.

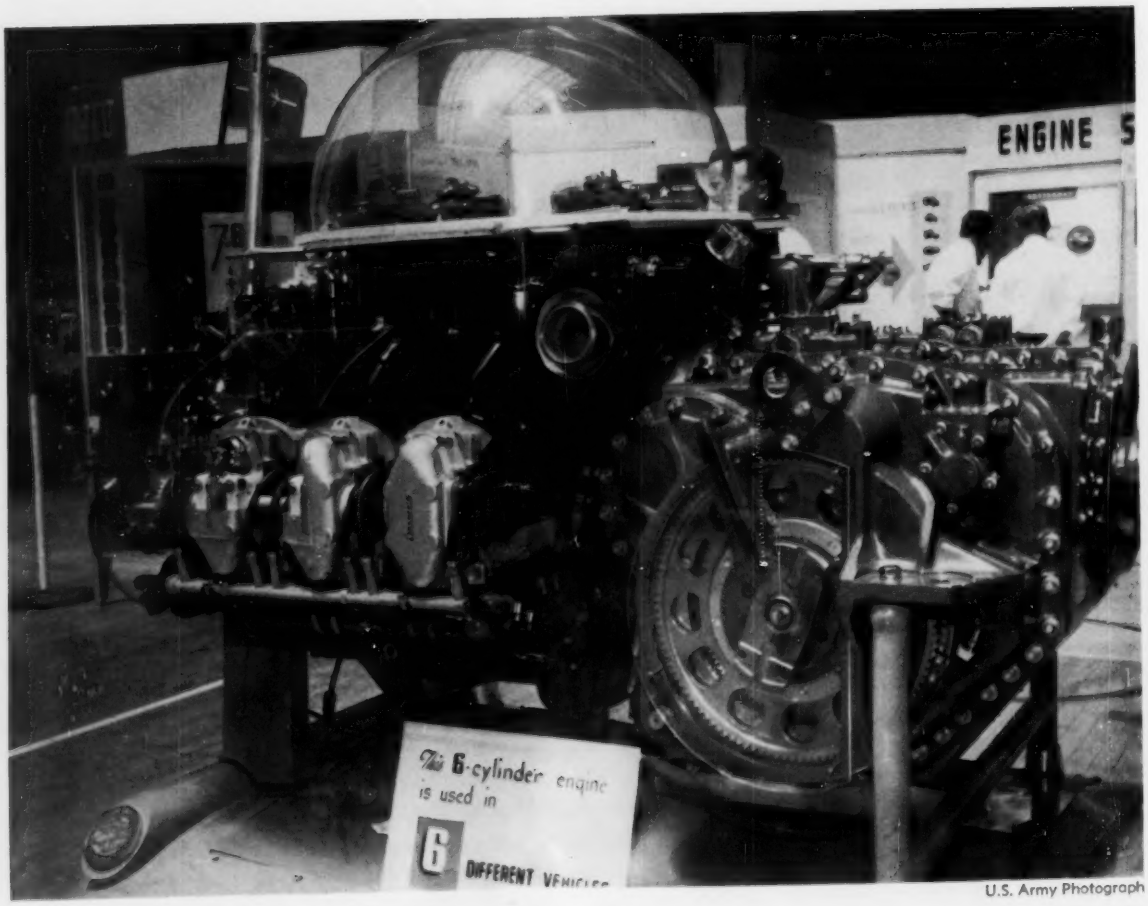
Mr Hess is internationally as well as nationally minded and follows the work of numerous foreign standardizing and technical societies. Since several ASTM technical committees are the American groups for ISO committees, he is concerned with this growing activity.

His intense devotion to ASTM activities occupies much of Mr Hess' time even in what most people consider their leisure hours. A manuscript and pencil are almost "standard equipment" as he gets in a little extra editorial work while commuting from Philadelphia to suburban Elkins Park.

Mr Hess holds membership in various organizations. His membership in the Philadelphia Engineers Club and the American Society of Civil Engineers are of long standing, and he holds membership in TAPPI, the Technical Association of the Pulp and Paper Industry, and NFPA, the National Fire Protection Association.

It is of interest that Mr Hess' undergraduate days were spent in the Civil Engineering Department of the University of Pennsylvania where he studied under the Society's first secretary, Edgar Marburg, and the second executive secretary, C. L. Warwick.

THE ARMY ORDNANCE



U.S. Army Photograph

FIGURE 1: Yesterday there were five engines for one vehicle; today there is one engine for six vehicles.

CORPS AND STANDARDIZATION

by Major General J. H. Hinrichs
Chief of Ordnance, U.S. Department of the Army

TO almost everyone the words "Army," "Navy," and "Air Force" suggest standardization: a uniform pattern of doing things, making them, wearing them, or using them.

Standardization of ordnance materiel dates back at least to Eli Whitney's idea for interchangeable parts in the rifles he produced for the Army following his first musket contract in 1798.[1] This was a great stimulus to the Industrial Revolution and has stood as a challenge to military planners ever since. Standardization activity got well under way in the early Army arsenals, five of which were established before 1820. Since its creation in 1812, the Army Ordnance Corps has believed that standardization enabled it to achieve the most defense for the least money. This was true because it simplified and hastened the supplying of weapons and equipment to the combat units of the Armed Services.

Army Ordnance put a formal standardization program into effect soon after World War I, when it realized such a program was necessary if its function of designing, engineering, procuring, and stocking a wide variety of weapons for the military forces was to be carried out effectively. Since the early 19th century, science and technology had added enormously to the complexity of weapons and had multiplied many times the number of

[1]See Fig. 3, "Rifle Standards through History."

U.S. Army Photograph

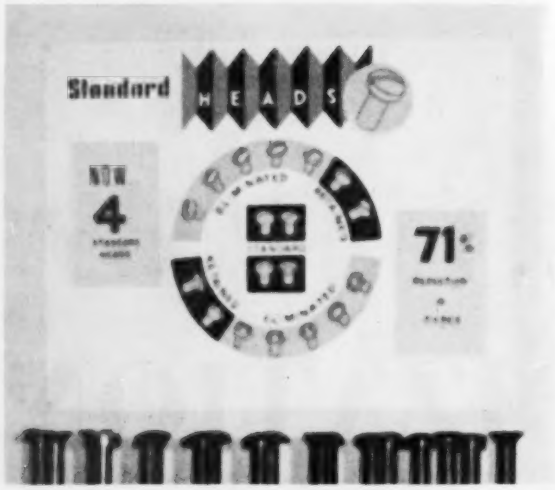


FIGURE 2: There used to be fourteen types of screw heads. Today there are only four standard screw threads.

parts of these weapons, as well as their fire control systems and ammunition. Many completely new items, such as tanks, trucks, and other automotive equipment, had entered the supply system. By 1918, grain, fodder, and axle grease were rapidly being replaced by gasoline and scores of types and grades of lubricants. World War II intensified those problems.

By VJ-Day, Ordnance standards numbered over 2000, covering 100,000 parts; Army and Ordnance Tentative Specifications also numbered over 2000. Since the other defense agencies had their own standards covering the same types of items and their own series of specifications, there was duplication.

Between 1947 and 1952 the Munitions Board Standards Agency sought to unify the standardization efforts of the services and lay the groundwork for a more effective program. Authority was lacking for such a difficult undertaking, however, and results were disappointing until Congress put "teeth" in the project by passing the Cataloging and Standardization Act of 1952. To direct the program, this act created the Defense Supply Management Agency, which an Executive Order later transferred to the Assistant Secretary of Defense for Supply and Logistics.

Neither government nor industry had attempted a standardization program of such magnitude as this one. There was much to learn and not enough experience on which to draw. New experience between 1952 and 1954 disclosed the need for a more systematic approach, which was provided by Department of Defense Directives in 1954 and 1955.[2] The chief features of the resulting standardization program provided for:

1. Delegation of authority to the military departments, by Federal Supply Classes, with provision for redelegation to the service, bureaus, and commands.
2. Screening every supply item in the military system.
3. Uniform procedures to facilitate cooperation among the military services for carrying out the program.
4. A system for controlling the entry of new items into the supply channel and for getting non-essential items out.
5. Simplifying inspection, packaging, and engineering.

Army Ordnance is responsible through the Department of Defense for standardization within 51 Federal Supply Classes of items. Typical of these are (1) guns, through 125 mm; (2) trucks and truck tractors; (3) tanks and self-propelled weapons; (4) motor vehicle maintenance repair shops; and (5) sighting and ranging equipment.

Ordnance exercises Army responsibility for standardization of 70 other classes, including (1) bolts, nuts, and screws; (2) packaging and gaskets; (3) hand tools; (4) guided missile components; (5) fire control systems; and (6) oils and greases. In addition, the Corps maintains an interest in 126 other classes of equipment assigned to other departments.

This program has achieved notable results. Army Ordnance alone completes about 500 standardization projects each year, ranging in complexity from rivets to missile guidance systems, and saves from a few hundred to several million dollars on each project. Far more is saved indirectly in warehouse space, increased combat efficiency, and other intangible economies.

From July 1955 to March 1958, the Ordnance Corps eliminated approximately 82,500 items from its inventory. Some of the most significant actions included the following:

1. Approximately 20,000 fasteners (nuts, bolts, rivets, etc) were removed from design standards.[3]
2. One engine has been adopted for six different vehicles; a great contrast with the World War II use of five separate engines in one tank.[4]
3. The number of tires has been cut from the 1750 used during World War II to 95 now standard for all new vehicles.
4. One new rifle (the M14) and one new machine gun (the M60) will replace three older style rifles and three machine guns.
5. Military standards for spark plugs will eliminate 61 of the 73 now in use.

Army Ordnance is also involved in two international standardization programs; the ABC (American-British-Canadian) and the NATO. Here emphasis rests on interchangeability of items. We want to be able to draw ammunition from the supply of a friendly nation, hook a U. S. truck to a Canadian trailer, use a U. S. wrench on a French bolt, use Italian gasoline and lubricants without damaging our equipment, and manufacture in American plants from British drawings.

The ABC program removes operational, technical, and materiel obstacles from full cooperation among

[2]DOD Directive 4120.3, 15 Oct 1954, and Standardization Manual M201, 1 August 1955.

[3]See Fig. 2. Panel showing standard screw heads.

[4]See Fig. 1. Photograph of standard engine and those it replaced.

U. S., British, and Canadian forces and obtains the greatest possible economy in their combined operations. The program begins with the development of fighting equipment and includes technical procedures, tactical doctrines, and logistics. Results cover simple items, such as screw threads and dimension and tolerance agreements, and extend to extremely complex equipment and its components.

NATO standardization has dealt mostly with such critical items as the octane rating of fuel in NATO pipelines, operational terminology, and commonly understood road signs. Perhaps the most notable achievement, however, was the adoption of the 7.62 mm cartridge for all NATO rifles. Interchangeable ammunition makes all NATO rifles functionally interchangeable and precludes the much more difficult task of obtaining agreement of a common rifle.

Cooperation with industry is a cardinal aspect of the Ordnance Corps standardization program. Army Ordnance coordinates its specifications and standards with all of the nationally recognized industrial and technical societies. Many standards established by technical societies and trade associations are cited in the military specifications prepared by the Ordnance Corps. Many are used directly in procurement contracts, and Army Ordnance intends to increase their use. This policy is a natural result of the great dependence of our fighting force on the production capacity of the American industrial economy. Thus, it is only logical that Army Ordnance requirements should be stated in terms that are meaningful and familiar to private industry. Ordinarily, it is necessary to depart from industrial standards only when they do not fully cover the military requirement.

Another facet of Ordnance-industry cooperation is the contribution of Army Ordnance engineers to the preparation of industrial standards. This is often a very substantial influence. Many Ordnance Corps specialists have worked side-by-side with industrial specialists in engineering and technical society committees. Army Ordnance representatives serve on 32 American Standards Association committees, 37 committees of the American Society for Testing Materials, and nine committees of the American Society of Mechanical Engineers. Other associations in which Army Ordnance engineers and scientists play an active role include the American Welding Society, the Society of Automotive Engineers, and the Society of the Plastic Industry.

Obviously, technical society and trade association standards do not cover all Ordnance Corps requirements. Army Ordnance requirements are constantly changing; new developments, products, and technological advances make existing specifications out of date and demand new Ordnance Corps standards or specifications. Since technical societies and trade associations develop standards to meet *minimum* requirements of particular industrial groups, many must be revised before they can be accepted by Army Ordnance. In addition, Army Ordnance must develop standards for the procurement of items used almost exclusively by the Government and for which there are few, if any, industry standards.

To sum up: Standardization in the Ordnance Corps today consists of the Defense standardization program, the internal program, and international standardization. These are not independent but are intricately interwoven and present complicated and difficult problems. Army Ordnance has done much over the years, and expects to do even more in the years ahead, to promote effectiveness and efficiency through standardization. It would be impossible to produce and maintain our increasingly complex weapons at a price the country can afford to pay without this emphasis on standardization. Reduction of items in the supply system, assistance to developers and designers, simplification of maintenance, and increased reliability are the hallmarks of effective standardization. Army Ordnance, in cooperation with industry, other services, and other free nations, is taking full advantage of this opportunity to strengthen our shield against aggression.

FIGURE 3: Rifle standards through history.

CHASING THE NONESSENTIAL

by Edwin W. Ely
Chief, Commodity Standards Division
Office of Technical Services, U. S. Department of Commerce

Exhibit shows variety of products affected by simplified practices and Commercial Standards, ranging from clothing to colors

A RECENTLY published biographical work concerning the chairman of the War Industries Board in the First World War devotes some attention to the operations of the Board's Conservation Division in respect to effecting reduction in variety of manufactured articles, as a means of making maximum use of our natural resources. The chief of the Conservation Division spoke of this endeavor as "chasing the nonessential." After the war the terms "simplified practice" and "simplification" came into use when acts of variety-reduction were described.

Each autumn, on the occasion of the National Standardization Conference luncheon, presentations are made of the Howard Coonley Medal and of the Standards Medal. In 1951 the recipients of these awards were, respectively, The Honorable Herbert Hoover, and the well-remembered Dr P. G. Agnew.

It is pertinent to this article that I quote the following sentences from the citation that accompanied the award received by Mr Hoover:

"Stimulating and encouraging the study of waste in industry, he directed the attention of our people to the need for a national program of voluntary standardization. As Secretary of Commerce, he gave impetus to a growing movement by creating the Division of Simplified Practice, whose work he furthered as thirty-first President of the United States. . . . No American has done more to bring his fellowmen order, harmony, and riches through the liberating forces of standards."

Mr Hoover, in 1920, as president of a newly formed

A few examples of variety reduction effected through *Simplified Practice Recommendations*

Title	S. P. R. No.	Year	Reduction in Variety From	To	Percent Reduction
Adhesive plaster	85	47	26	15	42
Bell-bottom screw jacks	97	47	78	27	78
Cans for fruits and vegetables	155	49	200	32	84
Cast-iron radiators	174	47	33	17	49
Clinical utensils (aluminum and steel)	240	50	(1)	52	—
Coffee grinds	231	48	Dozens	3	—
Convectors	238	50	1,000,000	1,002	99.8
Copper and copper-alloy rod	241	50	(1)	103	—
Cotton jersey cloth and tubing for work gloves	194	48	11	3	73
Cut tacks and small cut nails	47	49	428 sizes	185	57
			423 pks.	127	70
Delivery cases for milk bottles	236	49	Dozens	5	—
Eaves trough, conductor pipe and fittings	29	49	110	79	28
Ferrous range boilers and tanks	8	50	130	13	90
Files and rasps	6	47	661	377	43
Flat veneer products, spoons, forks, etc	230	48	29	8	72
Galvanized woven wire fencing	9	47	2,072	200	70
Glass containers for cottage cheese	148	47	24	4	80
Grinding wheels	45	47	715,200	254,400	64
Heavy forged hand tools	17	47	49	21	57
Hospital and institutional cotton textiles	74	49	459	26	94
Iron body valves (pressure ratings)	184	47	12	3	75
Loaded paper shot shells	31	50	4,067	262	94

Note: (1) Too numerous to count.

Federated American Engineering Society, the executive body of which was the American Engineering Council, appointed a committee of industrial management engineers to study the restrictions and wastes in industry.

Upon completion of its survey of six typical industries, the committee presented its report on "Waste in Industry," a 400-page book which was published in 1921 by the McGraw-Hill Book Company. The following observations were contained in that report:

"A nation-wide program of industrial standardization should be encouraged by the government in cooperation with industry. In the standardization of design of product, methods of procedure and number of models, there rests a large opportunity for the reduction of waste.

"It is not sufficient, however, to attempt to standardize the product of a given industry, for almost every industry is so dependent upon others that they too must cooperate. The Federal Government could call together the representatives of the trade associations of interdependent industries and in cooperation form committees for this purpose. The opinions or decisions of such committees might from time to time be promulgated as standards of practice."

In harmony with the above quoted observations, and equipped with assurances by the American Engineering Standards Committee that there were at least 1000 opportunities for the elimination of economic waste through reduction in variety and sizes of specific manufactured articles, Mr Hoover, as Secretary of the Department of Commerce, established a Division of Simplified Practice in the Bureau of Standards.

In December, 1921, Secretary Hoover announced that it would be the purpose of the Division of Simplified Practice to respond to voluntary requests to assist industries in their efforts to eliminate avoidable waste, as caused by overdiversification of varieties of products. At the same time, Mr Hoover appointed a Planning Committee composed of businessmen and industrialists to guide the new Division as it went about the development of operational procedures. The American Engineering Standards Committee was represented on the committee.

Secretary Hoover made it plain that "simplification" and "standardization" are not synonymous. He pointed out that "simplification" is fundamentally an economic movement, for the reason that it is based on commercial expediency rather than on scientific fact. Technical research and engineering are not necessary.

The term, "simplification," when used in the sense of eliminating unnecessary variety is sometimes confused with technical-standardization processes. Technical standardization is creative. Its goal is to determine and establish in use the best design, quality, method, or process.

On the other hand, the process of simplification is selective. Its objective is to determine which of the existing stock varieties and sizes are most important, and to concentrate production on those whenever possible.

Simplification may be applied to articles already technically standardized as to designs or sizes, or it may be applied as a step preliminary to technical standardization, thereby clearing the way and reducing the number of stock items to be considered. By disposing of the "dead wood" it is made possible for an industry to manufacture something *better* rather than just *different*.

During the first five years of its existence the Division of Simplified Practice discovered that there were certain industries that misconstrued the purpose of technical standardization but were convinced of the practicality of simplification. Such unbelievers feared that standardization would put everybody in uniform and arrest development in all fields of manufacture.

The Division of Simplified Practice made such headway in disabusing industrialists of their fear of drab uniformity, and in demonstrating the true importance and tangible value of technical standardization, that the Division started to receive requests for assistance in the development of technical standards programs.

To meet this need, the National Bureau of Standards established a Division of Trade Standards. The current list of Commercial Standards shows how often industries have requested the cooperation of the Department in this area.

The Bureau consolidated the Division of Simplified Practice and the Division of Trade Standards in 1947, and designated the combined activities a "Commodity Standards Division." After a few years the Commodity Standards Division became a part of the Office of Technical Services in the Department's Business and Defense Services Administration where it is continuing its accustomed cooperative service.

In contrast with the thinking in the early 1920's, businessmen and industrialists today regard standardization of prime importance. This is evident from the fidelity to detail that is manifested by all industry groups that present proposed Commercial Standards for passage through the procedures of the Commodity Standards Division. A like zeal is shown by those who are asked to consider suggested programs for adoption.

In all instances where industry requests the collaboration of the Department in drawing up new or revised Simplified Practice Recommendations and new or revised Commercial Standards, the Division makes certain that all such applicants are fully aware of the services and procedures offered to all concerned by non-governmental standardization organizations.

Upon completion of a voluntary standard of practice, the Division of Commodity Standards suggests to the proponent group that they consider the further possible step of submitting their standard to the American Standards Association for approval as an American Standard.

The Department of Commerce issues two separate series of booklets; one series lists Simplified Practice Recommendations and the other, Commercial Standards. There are more than 260 titles in the first series, and more than 200 in the other series. All of these standards are susceptible of change and modernization as often and whenever necessary.

All agencies, governmental and non-governmental, engaged in developing standards of practice appreciate the fact that the fundamental purpose of their endeavor is to make certain that standardization is understood by all as a vital concept, and to be of vast importance to the national economy. There is still plenty of work to be done by all of these agencies in the field of standardization and opportunities for collaborative action.

INDEX TO "CLASSIFIED LIST OF COMMERCIAL STANDARDS" CATALOG NO. 978, INDICATES TYPE OF SUBJECTS COVERED (AS LISTED BELOW).

Apparel
Body Measurements and Model Forms for Apparel Sizing
Building Materials
Ceramic, Mineral, and Vitreous Materials
Chemicals, Disinfectants, and Insecticides
Colors and Color Materials
Electrical, Mechanical, and Automotive Equipment
Hardware, Instruments and Tools
Heating, Ventilating, and Refrigeration
Hospital Supplies
Household Supplies and Furnishings
Jewelry
Lumber and Wood Products
Millwork
Paper and Paper Pulp Products
Petroleum Products and Oils
Plastics
Plumbing Materials and Fixtures, Pipe and Fittings
Precious Metals
Rubber Products
Textiles and Textile Products
Thermal Insulation Materials
Out-of-Print Commercial Standards

EDWIN W. ELY is chief of the Commodity Standards Division, Office of Technical Services, U. S. Department of Commerce. He has been an official of the Department of Commerce since 1923.

During World War II Mr Ely served as the National Bureau of Standard's consultant on simplification to the war agencies, and was instrumental in establishing the Bureau of Industrial Conservation in the Office of Production Management.

From 1948 to the present he has served as consultant on simplification to the Economic Cooperation Administration and successor agencies.

In 1955 the U. S. Department of Commerce cited Mr Ely for exceptional and outstanding services in the fields of simplification and standardization.

Among other affiliations, Mr Ely is a member of the Washington Society of Engineers. In 1957 he became a life member of the American Society of Mechanical Engineers.

SHED LIGHT ON CONFUSION

by **Mario Pisciotta and W. S. Till**

MR PISCIOTTA, electrical engineer, American Standards Association, is secretary of Sectional Committee C78, Standards for Electric Lamps.

MR TILL, commercial engineer, Lamp Division, Westinghouse Electric Corporation, Bloomfield, N. J., is chairman of the task force of Subcommittee C78-4, charged with the development of the American Standard Method for the Designation of Mercury Lamps.

MERCURY lamps have found widespread use in industry, and in highway lighting and street lighting applications. These applications are increasing due to the fundamental advantages of the mercury vapor lamp system which are long lamp life, high luminous efficiency, and very high light output per unit. These advantages help to reduce the number of luminaires needed for a particular application to a minimum. With the increased applications of mercury lamps the problems associated with a nonstandard designation system also have grown in importance.

The designations used for apparatus and devices offered to the public by more than one manufacturer often grow up with the industry. The result of this natural development of designation systems is that one company will identify its product by one code, whereas another company will identify an interchangeable product by a different code. These differences in designations create difficulties not only for the consumer, but also for the manufacturer, distributor, and sales people. For example, the 250-watt mercury lamp, shown in Figure 4, has been identified by the several different designations shown. Consider the difficulties of the purchasing agent who must keep in mind several designations for ordering, depending on which company's lamp he wants. Also, the distributor must constantly cross-check from one designation system to the other. These difficulties are now being eliminated—the American Standard Method for the Designation of Mercury Lamps, C78.380-1957, provides for a single system that makes it possible for interchangeable lamps to carry the same designation regardless of manufacturer.

Figure 4 shows the different designations that are at present used by various companies for the same mercury lamp; it also shows the new single lamp designation which will now be used throughout the industry for this particular lamp and which is in accordance with the new American Standard.

The old designation system grew up naturally with the industry. As a result of the lack of industry-wide coordination, lamp designations did not provide interchangeable lamps with the same name.

Figure 1

Figure 2

Figure 3

FIGURE 1: Old designation on a mercury vapor lamp. FIGURE 2: New designation. FIGURE 3: New designation with the symbol "W" for lamps having 5 percent red component and higher light output.

Westinghouse Photo

Finally the growing difficulties of the old system caused the lamp industry to take some action toward a single, nationally applicable mercury lamp designation program. The industry decided to utilize the procedures of the American Standards Association in order to be sure that the new plan could be relied upon to represent a consensus for its approval and use.

The project was taken up by a subcommittee operating under Sectional Committee C78 on Electric Lamps. The subcommittee was also at the time concerned with the standardization of dimensional and electrical characteristics of mercury vapor lamps; therefore, the project of a standard designation system went hand in hand with the rest of the program.

The original mercury lamp designation system in general use by most of the lamp manufacturers consisted of an initial letter (A, B, C, etc) which was assigned by each company as it developed new lamps in the same power rating (i.e., A-H1, B-H1, etc). The "H1" originally meant "high intensity" but was quickly changed to H and 1. The H referred to hydrargyrum or mercury (Hg), and the 1 referred to certain electrical characteristics (watts, volts, amperes, etc). These numbers were assigned in sequence, the 400-watt lamp having the number 1 assigned and the 250-watt, 85-watt, 100-watt, etc, having numbers 2, 3, 4, etc. The H numbers are important not only to the lamps but also to the ballasts or transformers which are necessary for their operation. Each category of lamp, with its own electrical characteristics (identified by its code number), requires the use of a ballast specifically designed to start and operate the lamp at its proper electrical values. The ballast manufacturers have generally marked on their ballasts the "H1," "H2," and similar designations indicating which lamp the ballast was designed to operate.

The principal difficulty with the old code was that it was not standard throughout the industry; therefore, it did not provide for interchangeable lamps to be designated by the same symbol. Each company assigned its own codes as it developed new lamps. In assigning a letter code for an interchangeable lamp, one company may be up to letter assignment C, while another company might be only up to letter B (see Figure 1). Some companies have assigned meaningful letters to identify lamps with reflectors (R), color correction (C), weather resistance (WR, WD), etc. Others have included wattage in the designation.

The electrical characteristic number assignments have also caused some difficulty due to the lack of a central assigning agency. This has resulted, in the past, in having the same number assigned to lamps of different electrical characteristics. The seriousness of an error of this type was soon recognized due to the probability that in operating a mercury lamp with a ballast not designed for its particular electrical characteristics, either the lamp or ballast, or both, would be destroyed. One of the first actions taken by the C78 subcommittee was to have the ASA established as the clearinghouse for the recording of electrical characteristic numbers to prevent such conflicts.

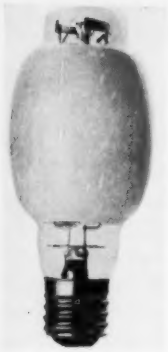


Figure 4

THIS single mercury vapor lamp was formerly known by four designations: H250-J5, D-H5, CC-H5, and J-H5. The new ASA designation H5KF will replace them.

In addition to this action, the committee continued its efforts toward a mercury lamp designation system which could be adopted and used by all of the manufacturers through a central administrative agency. The advantages of a common system for the identification of lamps which were meant to be interchangeable were recognized by both producers and consumers. Some of the advantages of a nationally applicable mercury lamp designation system are:

1. Eliminates doubt in a consumer's mind as to whether he has a lamp that is interchangeable with his existing lamp.
2. Makes it easier for the consumer to compare the products of various manufacturers, as he can easily identify which lamp is which.
3. Makes it easily possible to mark fixture as to what lamp or lamps it will operate.
4. Simplifies identification and labeling of a distributor's stock.
5. Avoids difficulties for manufacturers due to conflicting designations.
6. Makes it possible for all concerned to learn a single code system rather than two or three.

With these advantages in mind, the committee went to work to develop a mercury lamp designation system. Proposals were made to establish a system of meaningful letters to identify the various lamp characteristics—T for tubular outer bulb; X for deluxe; H for hard glass; W, M, N for wide, medium, and narrow beams, etc. When attempts were made to work out these proposals, however, they always resulted in systems of identification which were unduly complicated and which resulted in long mercury lamp codes. Additional characteristics were also suggested for identification so that the proposals were further complicated.

Taking heed from the photo lamp code system as established by the American Standard Code for the Designation of Photo Lamps, C78.370-1956, the committee considered a proposal to have two non-meaningful letters identify all of the physical characteristics of the mercury lamp except for "color" and "life." "Color" was not made a part of the lamp designation since there were no satisfactory standard methods of measurement or established limits for color. It is hoped, however, that this deficiency can be overcome eventually in order to bring "color" into the new code system. "Life" was not included because the life of the lamps does not truly affect lamp interchangeability.

Actually, under the present system each manufacturer has the option of adding information after the official designation to identify color or any other feature believed desirable.

The only other official portion of the mercury lamp code is the characteristic number which existed in the old lamp codes and was retained together with the identifying letter H. Thus the new designation for the mercury lamps shown in Figure 1 is H5KF. To this the lamp manufacturer may add 250 or any other appropriate symbol to indicate lamp wattage, life, color, or other characteristics. Some of the lamp manufacturers have indicated that they will use the following color codes after the standard designation:

C for phosphor-coated bulbs with about 8-10 percent red component as ordinarily measured.
W or S for similar lamps having about 5 percent red component and higher light output.
Y for yellow lamps.
X for deluxe lamps.

It is not expected that clear lamps will be given a color symbol. The advantages of the system as finally adopted are:

1. Designations are short.
2. Existing characteristic numbers (i.e., H1, H4, H15, etc) were retained wherever possible.
3. The system is flexible since it is not based on a significant code where meanings of various symbols are tied down.
4. The system lent itself to the establishment of a central clearinghouse for the administration of the plan.

With the constantly growing use of mercury lamps in the lighting field, the new mercury lamp designations assigned in accordance with the American Standard Method for the Designation of Mercury Lamps, C78.380-1957, will eliminate existing confusion and will provide a nationally applicable and convenient designation which may be used for both manufacturing and ordering purposes. The designation will help assure the user of the interchangeability of lamps which bear the same symbol.

American Standard Method for the Designation of Mercury Vapor Lamps, C78.380-1957, is available from the American Standards Association, 70 East 45 Street, New York 17, N. Y. at 35 cents per copy.

MORE STANDARDS ARE NEEDED FOR *CONSUMER APPLIANCES*

MORE standards are needed for appliances used by the consumer in the opinion of some of the speakers at a conference held recently by the Domestic Appliance Group of the American Institute of Electrical Engineers. Seven speakers approached the subject from different viewpoints.

W. A. Lewis, chairman of the AIEE Standards Committee, pointed out that in spite of its long history of standardization AIEE has done little in the development of appliance standards. One reason, he said, is that it has been difficult to arrange effective participation by users in the work of standards committees. "Without adequate user participation, it is not easy for the manufacturers alone to develop satisfactory over-all standards," he said. And in his opinion few purchasers are concerned with or competent to handle the engineering details of adequacy or safety.

H. C. Koenig, manager of the Electrical Laboratory, Electrical Testing Laboratories, urged the AIEE Appliance Committee to develop standards, taking into consideration performance, safety, and durability, but not design. He called attention to the fact that ASA Sectional Committee C70, Domestic Electric Flatirons and Other Heat-Producing Portable Household Appliances, has not submitted a standard since the approval of the American Standard Household Automatic Electric Flatirons, C70.1-1953 (NEMA Pub. No. DAI-1954). He urged the chairman of Committee C70 to set up working groups to proceed with the development of standards for other domestic appliances. He also suggested that the AIEE Domestic Appliance Committee use its influence to expedite the work of Committee C70 and offer to furnish the nucleus of a working committee for this purpose.

F. E. Hodgson, speaking on the gas industry appliance standards, described the 33-year-old AGA approval program, which includes development and maintenance of standards, testing and inspection of appliances under the standards, and certification and labeling program to identify appliances approved under the standards. He pointed out that the Approval Requirements Committee is a sectional committee of the American Standards Association and standards developed by the committee become American Standards. Safety, durability, and performance are the factors considered, he said.

F. J. Schlink, president and technical director of Consumers' Research, Inc, spoke on standards for domestic appliances from the consumers' point of view. He outlined factors that he recommends be considered in standards for appliances. "Such work should be related first to questions affecting safety of the user and of children in the household; second, to matters related to clear, easily read markings of capacity, function, and

correct operation; third, to means for reducing the time, trouble, and costs connected with making repairs and replacements of parts," he said.

Willie Mae Rogers, director of The Good Housekeeping Institute, presented the consumers' viewpoint. Standards are important to the Institute in its work, she said. "We always will encourage development of industry standards." However, she explained, the Institute's policy is to "satisfy ourselves." This may mean requirements equal to or higher than the highest existing standards. The Institute is chiefly concerned with safety and performance. In her opinion, the American Standards Association is the logical choice to set up standards for appliances.

G. E. Schall, Jr, associate managing engineer, Underwriters' Laboratories, Inc, spoke on the Laboratories' safety standards and pointed out that its electrical standards are being submitted to the American Standards Association under the Existing Standards Method for approval as American Standard. "It is safe to say that, as a whole, the standards of Underwriters' Laboratories have served as a useful guidepost to manufacturers in the design and production of safe equipment," he declared.

Leslie D. Price, National Electrical Manufacturers Association, presented the manufacturers' viewpoint. In his opinion, standards should define a product with reference to one or more of the following: nomenclature, composition, construction, dimensions, tolerances, safety, operating characteristics, performance, quality, rating, testing, and the service for which the appliance was designed.

NEMA is sponsor for Sectional Committee C70, the scope of which is now limited to heat-producing appliances, but which, Mr Price pointed out, could be broadened to cover all types of electric housewares. "NEMA," he said, "has not been inactive." As evidence, he pointed to the preparation of draft standards on electrically heated bed coverings; household electric roasters; coffee makers; hot plates and disc stoves; waffle irons and sandwich grills; portable air heaters; and electric broilers. Also near completion by the Electric Housewares Section of NEMA are drafts of standards for frying pans, sauce pans, and deep-fat fryers, toasters, and food mixers, he declared. He also reviewed the activities of Underwriters' Laboratories and concluded that "there is no immediate need for additional standardizing activity in the electric housewares field."

Calling attention to some of the problems of standardization that standards must not restrict design and that standardization must be carried on with strict adherence to law, Mr Price pointed out that NEMA believes that product standards within its scope should be developed in NEMA, or be submitted by NEMA, or by organizations cooperating with NEMA in the drafting of the standards, to the American Standards Association for consideration under the all-party-at-interest and consensus principle.

Photos courtesy of Good Housekeeping Magazine

At Good Housekeeping Institute modern home appliances are tested for performance. Above—Checking recordings of tests made in room controlled for temperature and humidity.

A section of the home laundry area in which Good Housekeeping home economists put washers, dryers, and laundry accessories through their paces.

NINTH NATIONAL CONFERENCE ON STANDARDS

PRELIMINARY

TUESDAY, NOVEMBER 18

10:00 A.M. Session 1: Fortieth Annual Meeting of the American Standards Association

Joint Meeting of the ASA Board of Directors and Standards Council, Company Members, and Guests

Keynote Address:

Standardization: What's In It For Us?—H. Thomas Hallowell, Jr, President, American Standards Association; President Standard Pressed Steel Company, Jenkintown, Pa.

What Has Been Happening in Your ASA?—Vice Admiral G. F. Hussey, Jr, USN (Ret), Managing Director, American Standards Association

The Standards Council: Review and Forecast—T. E. Veltfort, Chairman, Standards Council; Manager, Copper and Brass Research Association, New York, N. Y.

•

2:00 P.M. Session 2: Standard Methods and Specifications—Foundations for Standardization in Industrial Operations

Sponsored by the American Society for Testing Materials

Presiding Officer—Richard T. Kropf, Past President, ASTM; Vice-President and Director of Research, Belding Heminway Company, New York, N. Y.

Research and Standards—Hand-in-Hand to Help Industry—Kenneth Woods, President, American Society for Testing Materials; Professor, Purdue University, Lafayette, Indiana

The Steel Maker and User Speak a Common Language—Paul Archibald, Chief Metallurgist, Standard Steel Works Division, Baldwin-Lima-Hamilton, Burnham, Pa.

The Bell System Experience with ASTM Standards—I. V. Williams, Metallurgist, Bell Telephone Laboratories, Murray Hill, N. J.

Requisites for the Electrical Manufacturer—S. A. Rosecrans, Materials Engineering Department, Westinghouse Electric Corporation, East Pittsburgh, Pa.

Keeping Order Among the Plastics—Alfred C. Webber, Polychemicals Department, Research Division, E. I. du Pont de Nemours & Company, Inc, Wilmington, Del.

WEDNESDAY, NOVEMBER 19

Concurrent Sessions—9:30 A.M.

Session 3: Significance of International Standardization to U.S. Industry

How Standards Help Export Sales—W. R. Herod, President, International General Electric Company, New York, N.Y.

Standardization and the European Common Market—H.A.R. Binney, C.B., Director, British Standards Institution, London, England

The ISO—Vehicle for World Trade—Henry St. Leger, General Secretary, International Organization for Standardization, Geneva, Switzerland

U.S. Viewpoint on ISO Projects

ISO/TC 4, Ball and Roller Bearings—J. M. Bryant, Chief Engineer, Ball and Roller Bearing Division, Link-Belt Company, Indianapolis, Ind.

U. S. Viewpoint on IEC—R.C. Sogge, Manager, Engineering Standards, General Electric Company, New York, N.Y.

•

Session 4: Here's How Standards Make Money for My Company

Sponsored jointly by the Company Member Conference and the National Association of Purchasing Agents

Chairman—William H. Old, Director of Purchasing, The Babcock and Wilcox Company, New York, N.Y.

Panel

Thomas Griffin, General Manager of Purchases, Worthington Corporation, Harrison, N.J.

Alfred Gastler, Purchasing Department, Consolidated Edison Company of New York, New York, N.Y.

Forest H. Bump, Standards Engineer, Grinding Machine Division, Norton Company, Worcester, Mass.

S.H. Watson, Manager, Corporate Standardizing Division, Engineering Services, Radio Corporation of America, Camden, N.J.

Roy Trowbridge, Director of Engineering Standards, General Motors Corporation, Detroit, Mich.

W.B. Fleming, Manager, Standards Division, Jeffrey Manufacturing Company, Columbus, Ohio

R. J. Abele, Chief, Standards Engineering Department, Burroughs Corporation, Detroit, Mich.

Freeman B. Hudson, Jr, American Cyanamid Company, New York, N.Y.

Peter P. Heaney, Director of Purchasing, De Jur Amsco Corp, Long Island City, N. Y.

CMC Business Session

Purchase Order Analysis Measures Standards Progress—Philip J. Callan, Jr, Eastman Kodak Company, Rochester, N.Y.

•

12:00 M.: General Reception

•

12:30 P.M.: Annual Award Luncheon

Presiding—H. Thomas Hallowell, Jr, President, American Standards Association

Guest Speaker—The Honorable Henry Kearns, Assistant Secretary of Commerce for International Affairs

Presentation of the Standards Medal

Presentation of the Howard Coonley Medal

•

Concurrent Sessions—2:30 P.M.

Session 5: Industry's Responsibility in Developing Its Own Nuclear Codes and in Providing World Leadership in the Nuclear Standards Field

Sponsored by the Atomic Industrial Forum, Inc

Chairman—Alfred Iddles, President, Atomic Industrial Forum, Inc; Director, The Babcock and Wilcox Company, New York, N.Y.

The Government Viewpoint—Speaker to be announced

What Nuclear Standards Mean to Industry—Morehead Patterson, Chairman, ASA Nuclear Standards Board; Chairman of the Board, American Machine and Foundry Corporation, New York, N.Y.

International Aspects of Nuclear Energy Standards—Vice Admiral W.A. Kitts, 3rd, USN (Ret), Manager, Atomic Products Study, General Electric Company, Schenectady, N.Y.; Atomic Industrial Forum, Inc.

Standardization—What's In It For Me?

Hotel Roosevelt, New York City,
November 18, 19, 20, 1958

PROGRAM

Session 6: How Standards Aid Machine Tool Progress

Sponsored jointly by the Company Member Conference and the National Machine Tool Builders' Association

Moderator—A. W. Meyer, Director of Patent and Engineering Investigation, Brown & Sharpe Manufacturing Company, Providence, R.I.

Small Talk or the Seventh Decimal Place—Louis F. Polk, President, The Sheffield Corporation, Dayton, Ohio

International Symbols for Machine Tool Controls—Charles Blake, Warner & Swasey Company, Cleveland, Ohio

Throw-Away Tools—R. J. Stewart, Manager of Engineering, Vascoloy-Ramet Corporation, Waukegan, Ill.

THURSDAY, NOVEMBER 20

Concurrent Sessions—9:30 A.M.

Session 7: Producer-Consumer Benefits of Standardization (Discussion of L22)

Chairman—Dr George S. Wham, Jr, Technical Director, Good Housekeeping Institute, New York, N.Y.

The Yarn Group's Viewpoint—Arthur R. Wachter, Manager, Converting Relations Department, American Viscose Corporation, New York, N.Y.

Reeves' Experience with L22—Percy R. Meeker, Vice-President, Reeves Brothers, New York, N.Y.

How L22 Helps Sales Efforts—Leonard Kalish, Triplex National Corporation, New York, N.Y.

The Garment Manufacturing Viewpoint—Ben Oshins, Ben Oshins, Inc, New York, N.Y.

The Merchandising Viewpoint—William Burston, Manager, Merchandising Division, National Retail Merchants Association, New York, N.Y.

Consumer Benefits from L22—Dr Pauline Beery Mack, Dean, College for Household Arts and Sciences, Texas State College for Women, Denton, Texas

The Home Economist's Viewpoint—Mrs Lucille Williamson, New York State College of Home Economics, Cornell University, Ithaca, N.Y.

Session 8: Safety Labeling Standards on Containers for Hazardous Substances Pertaining to Chemicals and Petroleum

Chairman—N. M. Walker, Assistant Secretary, Pennsalt Chemicals Corporation, Philadelphia, Pa.

History and Principles of Precautionary Labeling—John Tuttle, Special Assistant, Esso Standard Oil Company, New York, N.Y.

The Need for Uniform Labeling Laws and Regulations—Louis Fisher, Director, Legislative and Liaison Division, National Paint, Varnish and Lacquer Association, Washington, D.C.

Health Hazards as Related to Precautionary Labeling—Dr John Foulger, Director of Medical Research, E.I. du Pont de Nemours & Company, Inc, Wilmington, Del.

Review of Legal Responsibilities—William Quinn, Counsel, Chemical Division, Merck & Company, Inc, Rahway, N.J.

•

Concurrent Sessions—2:00 P.M.

Session 9: Producer-Consumer Benefits from Electronic Standardization

Sponsored by the Electronic Industries Association

Chairman—Leon Podolsky, Technical Assistant to the President, Sprague Electric Company, North Adams, Mass.

Producer-Consumer Benefits from Standards for Electronic Components—Vincent dePaul Goubeau, Vice-President in Charge of Materials, Radio Corporation of America, Camden, N.J. (User) and Julian K. Sprague, President, Sprague Electric Company, North Adams, Mass. (Producer)

Printed Circuit and Etched Wiring Standardization—Dr Joseph Harrington, Arthur D. Little, Inc, Cambridge, Mass. (User) and Fred C. Collings, Radio Corporation of America, New York, N.Y. (Producer)

Industry-Military Cooperation in the Development of Standards and How They Benefit the Taxpayer—Captain Henry Bernstein, Military Engineering Coordinator, Electronic Industries Association, Washington, D.C. (Producer) and J.J. Dunn, Staff Director for Standardization, Office of the Assistant Secretary of Defense (S&L), Washington, D.C. (User)

•

Session 10: What Photographic Standards Mean to the Consumer

Sponsored by the Photographic Society of America

Chairman—Paul Arnold, Assistant to Technical Director, Ansco Division, General Aniline & Film Corporation, Binghamton, N.Y.

Standardization of Photographic Chemicals—R.N. Linkhart, E.I. du Pont de Nemours & Company, Inc, Photo Products Department, Parlin, N.J.

Progress Made in the Field of Document Copy Standardization—Donald C. Holmes, Chief, Photoduplication Service, Library of Congress, Washington, D.C.

Speed and Exposure Index Standards—John L. Tupper, Assistant Director, Physics Department, Kodak Research Laboratory, Rochester, N.Y.

REGISTRATION FEE

All sessions, including Award Luncheon and Published Conference Proceedings	$25.00
All sessions, excluding Award Luncheon and Proceedings	18.00
Award Luncheon only	6.50
Individual Sessions	2.50
Published Proceedings	4.50

All conferees are urged to register in advance. Tickets will be mailed on receipt of registrations. If advance registration is received too late to acknowledge, tickets will be held at the Registration Desk.

HOTEL RESERVATIONS

Hotel Roosevelt, Madison Avenue and 45th Street, New York, will accept room reservations for Conference registrants.

CARBIDE AND CUTTING

MR SEACORD is general supervisor of Manufacturing Standards, Research, International Harvester Company, Chicago, Illinois. He is vice-chairman of ASA Sectional Committee B5 on Standards for Small Tools and Machine Tool Elements and a member of ASA's Company Member Conference.

TECHNICAL advances in the area of tooling—new concepts of metal cutting, entirely new types of tools, and increased acceptance of carbide cutting materials—had rendered certain parts of the original American Standard Single Point Tools and Tool Posts, B5.22-1950, out-of-date and incomplete since its approval date. This fact had been borne out in meetings of carbide manufacturers and in two meetings of the Joint Industry Conference. As a result, recognizing the shortcomings of the 1950 standard, the American Society of Tool Engineers developed a revision through a committee of carbide manufacturers, fabricators, and users working in conjunction with a technical committee of ASA Sectional Committee B5. Result—a new standard on Carbide Blanks and Cutting Tools, American Standard B5.36-1957.[1] This is one more example of industry participation in the review and modification of an existing standard.

[1] American Standard Carbide Blanks and Cutting Tools, B5.36-1957, can be obtained at $2.00 per copy from the American Standards Association, 70 East 45 Street, New York 17, N. Y.

In the new standard, nomenclature has been changed somewhat, and tolerances have been removed from the text and included with individual tables of tool sizes. The identification system was modified to include examples of tool designations. Tool drawings of individual styles were changed to conform with established drafting practices and were completely dimensioned. Tolerances were included for all but reference dimensions. Provision for tip overhang was included on all carbide-tipped single-point tools to eliminate grinding steel shank material with a diamond wheel on initial sharpening operations. Provision was made for optional slash milling of the tip pocket for those manufacturers and users who prefer this practice.

The lengths of tipped tools were, in general, reduced except in the case of ¼-inch square tools which were lengthened to provide for better holding of the tool.

In addition, to satisfy industry demands, two new styles were introduced to provide for right- and left-hand offset threading tools.

A completely new section was added to the standard to cover styles, designations, and dimensional features of both carbide-tipped and solid carbide boring tools. The designation system, as developed, employs three letters to denote style and numbers to indicate tool size. The style letters identify the tool as tipped or solid carbide, round or square cross-section, and as having one

BLANKS

TOOLS

by W. H. Seacord

of eight standard side-cutting edge angles. Size indications are similar to those in other sections of the standard. Altogether, a range of sizes for fourteen styles of boring tools is suggested for this section.

The section covering carbide blanks was revised to include new styles and sizes and to clarify nomenclature. To avoid confusion, mounted carbides are designated as "tips" and unmounted carbides as "blanks." Carbide tips are then dimensioned in a manner consistent with shank dimensioning.

Two new styles of blanks have been added to reflect current industry practice. Style 1000 blanks are plain rectangular blanks which, in the larger sizes, require a considerable amount of grinding to provide proper clearance angles. Many users and fabricators have requested that a clearance angle be preformed in the sintered blank for the larger sizes. As many manufacturers are already supplying such blanks, a suggestion was made and incorporated in the standard to include, for the larger sizes, a Style 0000 which is a rectangular solid except with a clearance angle along one side of the blank. The other addition concerns a style of blank with an offset 60-degree nose angle in appropriate sizes for single-point tipped threading tools.

To reduce the amount of grinding required to produce a completely finished tool, most of the manufacturers have increased the degree of the clearance angles on Styles 3000 and 4000. These are rectangular solids, except with a radius on one corner and having clearance angles along one side and one end. These increased clearance angles are reflected in the standard.

Particular attention was given to the completeness of the listing of standard blank sizes. It was necessary to add a total of 47 individual blanks to the listing to reflect the recommended additions of tool styles and sizes. It was also found that industry demands did not warrant the deletion of any blanks from the standard. Considerable thought was given to dimensional tolerances of carbide blanks because of the attempt to assign tolerances to all but reference dimensions in the standard. The result was the elimination of the oversize width and length tolerances shown in the former standard and no longer followed by industry.

Another section added to the new standard pertains to standard sizes, styles, and designations of solid sintered carbide inserts 1½ inches long and their holders. It should be pointed out that standards of shorter length inserts, known as "throw-away" blanks and their holders, are not included.

The standard now lists five styles of 1½ inch long inserts identified by shape of cross-section as circular, triangular, square, and diamond inserts.

Designation systems were developed for both the inserts and their holders similar to those already in use or developed for the other sections of the standard. In other words, the designation consists of a combination of descriptive letters indicating style, and numbers indicating tool size.

Fourteen styles of holders are described and listed in a range of sizes for all but diamond-shaped inserts. It was found that the relatively small total industry demand for a large number of varieties of holders of the diamond inserts makes standardization of this item virtually impossible at the present time. At some later date when a recognizable pattern is developed through industry usage, the standard can be revised to include such data.

Holders for mechanically-clamped solid carbide inserts are varied in design, and the designs of each manufacturer are protected by patents. Design patents generally involve the mechanical features of holding and clamping the insert. Such features, therefore, are not defined in the standard. Because national standards cannot be restrictive in nature, the method of dimensioning and the range of tolerances developed for the standard insert holders reflect this condition. In view of this, the standard is offered as a guide, showing the ranges of size dimensions within which holders of different manufacturers are interchangeable, one with another.

The adoption and use of American Standard Carbide Blanks and Cutting Tools does not imply that standardization in this area is complete. Continued improvement in tooling and processes, and continued cooperation among manufacturers, fabricators, trade associations, technical societies, and users portend future standards even more reflective of industry practices.

A READER SPEAKS FOR DRAWING SIMPLIFICATION

W. N. Gittings, Standards, Development, and Training Courses Specialist, Switchgear and Control Division, General Electric Company, comments on George Noble's "Engineering Drawing at the Crossroads."

EDITOR'S NOTE: Mr Noble is in charge of the Standards Department, Dominion Engineering Works, Ltd, Montreal, Canada, and is vice-chairman of the Canadian Standards Association's Committee on Engineering Drawings, Mechanical Section. In his article he urged that simplified drafting be soft-pedaled and emphasis placed on use of ABC unified drafting practices.

In his recent article[1] George Noble suggests that the practice of drawing simplification violates established standards, interferes with the adoption of international standards, and should be held in abeyance until authorized in national or international standards.

This conclusion could hardly be reached without first assuming that simplification *per se* can be standardized. Such an assumption has little validity. The only "standard" which could be written for simplification would be one that said in effect, "You shall simplify thus far and no farther."

If progress in simplification were to await the incorporation of "limits of simplification" into national and international standards, it would be slowed to a snail's pace. It is difficult to see how industry could be persuaded to forego the economies available to it through newly developed simplification techniques until the necessarily slow processes of standardization write their permissible limits into the standards.

Ample evidence of the slow pace of standardization is the "six major conferences and nearly 14 years of devoted effort" which has been required to get "very close to a unified document" on drafting practice for only three English-speaking countries. Is the U.S. Navy, for instance, being urged by Mr Noble to forego the economies resulting from elimination of multiple delineations of identical parts until the ASA pronounces its blessing on that particular technique by publishing it in a standard?

The sole theme of the U.S. Navy Department Bureau of Ships document which so alarms Mr Noble is wrapped up in the following rules, quoted verbatim from the document:

1. Use a few words instead of a picture.
2. Use the minimum necessary views.
3. Omit elaborate, repetitive, pictorial details.
4. Use numbers for standard items.
5. Use dotted lines only to clarify.
6. Use hatching for clarification only.
7. Use machine-set copy for lengthy notes.
8. Use freehand techniques where suitable.
9. Use ordinate dimensioning when appropriate.
10. Consider legibility of reduced-size prints.

It is difficult to conceive of a "large section of expert opinion" which would oppose such commonsense rules.

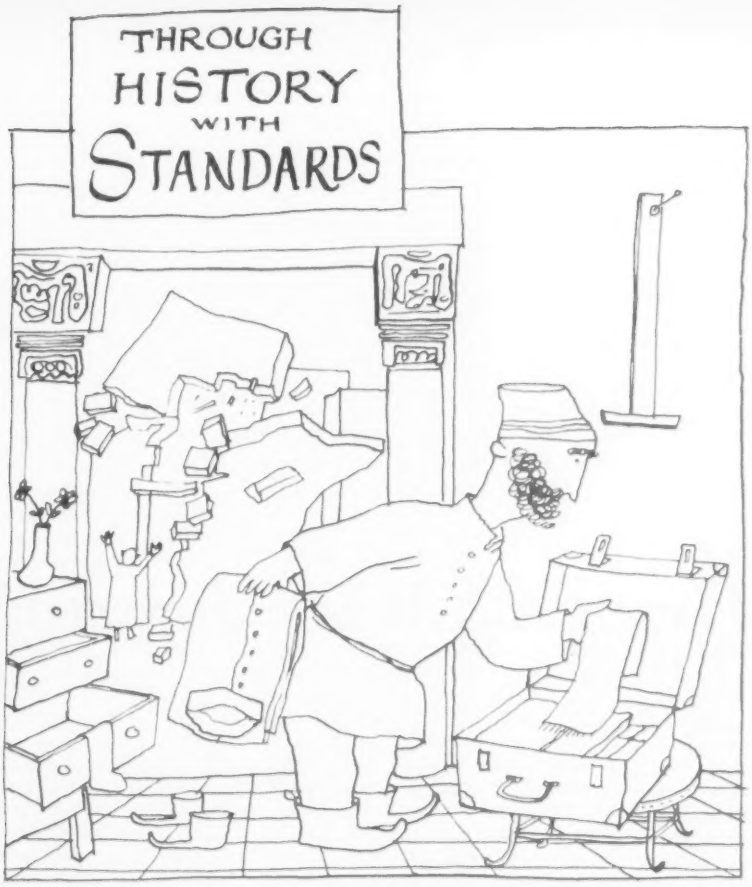
Standards engineers are properly loud in their proclamation of the dictum that standards must not be so written as to impede progress in the art. They should therefore be the last to insist that the use of an invention or a new technique should wait for the promulgation of a standard on the subject. Such a procedure would strike a mortal blow to competition since standards are adopted only by agreement among competitors and the competitor originating an idea would lose all the advantage of his inventiveness while waiting for the agreement. The time element is vital in such matters and the attainment of agreement on standards usually takes years at the national level and often decades at the international level. Our modern economy will not tolerate such delays in progress, much less our national security.

Mr Noble's article ends with three pieces of advice to the "enthusiastic proponents for simplified drawing." With the first two, which urge compliance with standards and propagation of the ABC unification concept, there can be little serious argument and it is doubtful if many "simplified drafting proponents" could be found to disagree.

The third piece of advice, urging that simplification efforts be directed toward more efficient drafting equipment and processes to the exclusion of "experimenting with shorthand methods" of making drawings, will however fall on many a justifiably unreceptive ear. Modern and efficient equipment is of course a must in any well-ordered drafting room but it is economic folly to load these expensive facilities with the production of unnecessarily complicated and often confusing drawings simply because the slowly grinding mills of standardization have not yet placed the stamp of approval on simpler and more understandable ones.

The makers of standards and the "proponents of simplification" are not antagonists. They are members of the same team devoted to winning the battle for progress over stagnation.

[1] "Engineering Drawing at the Crossroads" by George Noble, THE MAGAZINE OF STANDARDS, August 1958, page 242.



Aprés moi le deluge—

"I'll be gone by the time the fire brigade arrives."

THE first historical building code preserved today is about 4000 years old. It is a cuneiform tablet issued in the name of King Hammurabi of the City of Babylon, reading (in free translation): "The builder of a substandard house that falls and kills the householder shall be slain."

One of the oldest building codes in America was an act passed by the legislature of Virginia in 1662 for the building of a town at James City. The act limited the number of houses in the city to 32 and specified the dimensions of each house and the materials to be used. At about the same time New York's predecessor, the city of New Amsterdam, prohibited such fire hazards as hayricks and wooden and plastered chimneys.

Today, despite the fine work done in the United States by the model national code groups, the Joint Committee on Building Codes, and the various state code commissions, many of the building codes in the United States are only slightly more progressive than these examples from history. A great number of codes are still based on building methods 20 to 50 years old. Practically each local community has a code different from that of its neighbor. The nation's annual building costs could probably be reduced by several billion dollars if all local building codes were based on uniform national standard requirements, and if the codes were kept up to date to allow for improvements in building materials and methods, estimates indicate.

There are 320 American Standards directly applicable to the building industry, many of them suitable for use in building codes. Much has already been accomplished through the wide adoption of many of these American Standards—among them the National Electrical Code, the National Plumbing Code, installation requirements for gas-burning appliances, specifications for design, fabrication, and erection of structural steel for buildings, building code requirements for minimum design loads in buildings, building code requirements for masonry, specifications for gypsum plastering, and building code requirements for reinforced concrete, to name a few. However, much still remains to be done.

If more of such uniform standard requirements were adopted by more American communities, the American home would be a better bargain than it is now in comparison to the products of many other, more standardized American industries.

This is the fourteenth installment in the current series of rulings as to whether unusual industrial injury cases are to be counted as "work injuries" under the provisions of American Standard Method of Recording and Measuring Work-Injury Experience, Z16.1-1954. The numbers in parentheses refer to those paragraphs in the standard to which the cases most closely apply. These cases are issued periodically by the Z16 Committee on Interpretations.

Case numbers in the current series start with 400. Cases 400-500 have been reprinted with an index prepared by the National Safety Council. To make it easy to locate all cases applying to any section of the standard, the index is arranged both numerically by paragraph number of the standard and numerically by case number. Each index reference includes a brief description of the case. Reprints are 75 cents per copy, available from ASA.

Sectional Committee Z16 is sponsored by the National Safety Council and the Accident Prevention Department of the Association of Casualty and Surety Companies.

Are These Cases Work Injuries?

CASE 573 (5.2)

A workman with a long history of back trouble which the company believed to be chronic was swinging a six-pound sledge hammer when his foot slipped. An hour or so later a pain developed between the employee's shoulders. He claimed at the time that he felt a sting in the sacroiliac region. The workman reported to work on the following day, and was home for four days thereafter (two holidays and the weekend) with a stiff and sore back. He reported to his own physician on Monday, and stayed home for a week thereafter.

The company believed that this lost time could be excluded from their work injury rates because of the poor physical condition of the workman which even restricted him to ground level because of dizzy spells.

Decision: The committee decided that this case should be considered a work injury and included in the rates. The members believed that swinging the hammer represented overexertion for this employee and that this plus the slip met the requirements for reportability.

CASE 574 [A1.6 (i)]

An employee returning to work from his rest period was struck and seriously injured by an automobile as he crossed the public street separating the plant where he worked from the cafeteria where he had gone to purchase a cup of coffee. The cafeteria, which was not open to the general public, was in a building owned but not operated by the company, nor did the company make any profit from it. Employees on rest and lunch periods were at liberty to stay in the plant or go out. Despite numerous requests by the company, the authorities refused to install a traffic signal at the intersection used by company employees to reach the cafeteria.

Decision: The committee concluded that this injury should be included in the rates on the basis that it occurred while the employee was traveling from one plant property to another.

CASE 575 (5.18)

A maintenance rigger was engaged in using a powder-actuated stud driver. He was driving a stud into the cement floor when the stud struck a hard piece of material and turned it, throwing a small shower of cement particles upward, past the tool guard and up under the employee's safety glasses, depositing a few fine particles in his left eye.

The employee was sent first to the plant hospital, then to the company's ophthalmologist who removed several foreign bodies from the eye and cornea, and advised the employee not to work for from 24 to 48 hours, depending upon how he felt. The employee remained away from work his next regular shift because the medication made his eye tear and made him uncomfortable enough so that he did not feel like working; however, he stated later that he had been in no pain or discomfort, and could easily have returned to work his next regular shift had he realized that this would break the company safety record.

The company noted that the disability did not occur as a result of the drug used for dilating the pupils for examination, but believed the accident might not be chargeable as it was a medication which caused loss of time on a possibly nondisabling injury.

Decision: The committee decided that this injury should be included in the work injury rates as a temporary total disability. The members believed that this employee was away from work probably more because of the injury itself than because of the effects of any particular medication, and the authorization to remain away from work was based on the decision of the doctor engaged by the employer.

CASE 576 (5.11)

For the enjoyment of all persons interested in participating in the different types of sports, a company had a recreational program whereby employees were neither hired to play these sports, nor were they paid because of their athletic ability. They were hired and paid for definite jobs within the plant, and were permitted to participate in the sports as a means of recreation.

Sports participants were allowed time off from work to enter sports activities, and were paid their regular rate for their regular job. Employees also entered sports activities during lunch hours and after their scheduled working time.

The company questioned—if an employee were injured while playing one of the sports, and he was scheduled to be working, would that be counted as a lost-time accident? And, if an employee were not scheduled to work, thereby not receiving any pay, and was injured while playing one of the athletic events, would that be counted as a lost-time accident?

Decision: The committee decided that if an employee was paid his regular rate of pay while engaging in a sports activity, any accident to that employee at that time would be reportable. The members believed, however, that injuries to those employees who were playing during a lunch hour or after work, time for which they were not paid, would not be reportable. The committee concluded that if the company paid an employee while he was engaged in any sport activity, it must be construed that he was working in the best interests of the employer, and therefore any injury should be included in the rates.

Case 577 (1.5)

A churn room attendant left his operating area and walked out into an adjacent vestibule. He stated that he wished to see whether or not it was raining outside. Lighting in the area was adequate, and although the windows were reasonably clean and there was no appreciable glare from overhead lights, the employee placed his left hand against the window glass and brought his head forward to look under his hand. His forehead struck his hand, breaking the glass in such fashion that his wrist was lacerated. He lost four days of work time.

Decision: The committee decided that this injury should be included in the rates since the members did not believe the employee had taken himself out of his employment by merely going to the window to see what the weather was outside.

Case 578 [5.1 (a)]

A construction mechanic and fellow employee were loading a trolley on a low flat wagon from the ground outside the construction shop. The trolley was a four-wheel type which runs on an I-beam monorail and on which chain blocks are hung, and weighed approximately 200 pounds. With one employee at each end, they lifted the trolley and placed it on a low wagon. As the construction mechanic swung forward to place it on the wagon, he felt a pain in his side. There was no slip, unusual position, or twist of body, and the employee could attribute no cause to the resulting hernia. He had done the same thing many times in the past. The company agreed that the requirements of 5.1 (b) and (c) had been met.

Decision: The committee concluded that this should be considered an industrial hernia and included in the rates. The committee explained its reasoning as follows:

The intent of rule 5.1 is to provide a method of determining for record purposes whether or not a hernia actually occurred in the course of and arose out of the employment. If it did occur in the course of and arise out of the employment, it is reportable under the general rule of 1.1.

In the application of rule 5.1 it is necessary to apply provision (b) as the first step in the determination—that is, it is necessary to establish when the first onset of pain in the hernial region occurred.

Having established the time of the occurrence, it is then necessary to determine whether or not this onset of pain was immediately associated with an event of the work activity which might reasonably be assumed to have been the precipitating source of the hernia. Rule 5.1 specifies that this event must have involved "impact, sudden effort, or severe strain," and in (a) offers certain examples of events having these characteristics, namely "a slip, trip, fall, sudden effort, or overexertion."

The use of the phrase "such as" in 5.1 (a) clearly indicates that the specific events listed in this provision are intended to be examples, and are not necessarily all-inclusive. The fact that provision (a) includes only one kind of event involving impact, namely "a fall," supports this conclusion. It is not reasonable to assume that other kinds of impact cases, such as a severe blow to the abdomen were intended to be excluded.

Taken together, the first paragraph of 5.1 and provision (a) of 5.1 clearly specify that any event characterized as an impact or blow, or as a slip, trip, or fall which immediately precedes the onset of hernial symptoms shall be accepted as evidence of the origin of the hernia. Events of these kinds usually present no problem of recognition or identification because they contrast sharply with the normal actions of employment.

The first paragraph of 5.1 and provision (a) of 5.1, however, also specify that any event involving sudden effort, severe strain, or overexertion which immediately precedes the onset of hernial symptoms shall also be accepted as evidence of the origin of the hernia. These, unfortunately, are general terms which may have different implications to different people. The problem of identifying such events or incidents is heightened by the fact that they tend to merge with and may be indistinguishable from the normal activities of employment. Their identification, therefore, must be based upon the rule of reason, and must involve subjective rather than purely objective evaluation.

This evaluation must start with the premise that the intent of the standard is that any event occurring in the course of and arising out of the employment which imposes a strain on the abdominal muscles and results in a hernia shall be considered a work accident, and the resulting hernia shall be considered a work injury.

The varying physical capabilities of different persons and the infinite range of circumstances under which similar actions may be performed make it impossible to establish a fixed general rule as to what constitutes "severe strain or overexertion." At the extremes there may not be any question. For example, in lifting it probably would be universally agreed that a one-man lift of 150 pounds would constitute overexertion in any circumstance. Conversely, a 10-pound lift probably would not be considered as overexertion. Somewhere within this range, however, there is a dividing point which varies from one individual to another and also varies with the circumstances under which the lift is performed or attempted.

Although the standard gives no hint as to the precise method of evaluating the probability of overexertion or strain in any action, the relationship of provisions (a) and (b) of 5.1 indicates that the activity being performed at the time of the onset of pain must be suspect as the possible source of the hernia and, if this action presents a reasonable potential of overexertion or strain, the presumption becomes strong that this action was the source of the hernia. In normal application, therefore, it must be assumed that the requirement of "a clear record of an accident or an incident" has been met when it is established that the action being performed involves a reasonable potential of strain or overexertion. The mere fact that the same action had been performed repeatedly with no previous ill effects is not sufficient grounds to negate this assumption.

In the present case it seems reasonable to assume that a two-man lift of a 200-pound object, particularly one of irregular dimensions such as this, did involve a considerable potential of strain or overexertion. Such an activity, therefore, would constitute an "incident" as contemplated in provision (a) of 5.1. Since the fact that the employee was engaged in this activity at the time of the onset of pain is a matter of record, it appears that there is here a clear record of an incident which meets the requirement of provision (a) of 5.1.

Therefore, since it is conceded that the requirements of (b) and (c) of 5.1 have also been met, the hernia should be counted as a work injury.

news briefs.....

Some of the representatives who attended the conference on home building standards. On dais (left to right) Ben Saltzman, representing Building Officials Conference of America; stenotypist; F. C. Frost, ASA staff, Secretary, Construction Standards Board; Cyril Ainsworth, Deputy Managing Director, ASA; Lloyd Barron, Chairman, Construction Standards Board, presiding; Vice Admiral G. F. Hussey, Jr, USN (Ret) Managing Director, ASA; J. W. McNair, Technical Director, ASA.

• Representatives of 83 organizations with an interest in home building met September 9 to discuss whether a uniform set of building code requirements for one-and two-family houses should be developed under the procedures of the American Standards Association.

When the meeting broke up, no conclusion had been reached.

Fifteen of the organizations present said they would cast their vote by letter. The count on the other votes was as follows: for initiation of a project, 24; against, 17; not voting, 27.

The decision of whether the motion was carried will be deferred by the Construction Standards Board of the American Standards Association until the letter votes are received.

The original request for development of residential building codes was made to the American Standards Association last July by publisher Henry R. Luce on behalf of 14 national organizations concerned with home building.

According to one speaker at the September 9 meeting, this was the largest gathering of national groups interested in home building ever to assemble in one room. Total individual attendance was 130.

• The Construction Specifications Institute has just been added to the membership of the Construction Standards Board of the American Standards Association. The Institute is directly concerned with the development of construction standards, one of its principal purposes being to promote improved specification practices in the construction and allied industries. It has about 3000 members in 30 chapters throughout the country. Active members are individuals professionally concerned with specifications and documents used in connection with the design, construction, maintenance, and equipment of construction projects.

The Construction Standards Board, which supervises all the work on standards concerned with building materials, practices, and codes under the procedure of the American Standards Association, now has a membership of 23 organizations. In addition to the CSI, these are: AFL-CIO; American Institute of Architects; American Municipal Association; American Public Health Association; American Society of Civil Engineers; American Society for Testing Materials; American Factory Mutual Fire Insurance Companies; Associated General Contractors of America, Inc; Association of Casualty and Surety Companies, Accident Prevention Department; Building Officials Conference of America, Inc; International Association of Governmental Labor Officials; International Conference of Building Officials; National Association of Home Builders; National Association of Real Estate Boards; National Board of Fire Underwriters; National Bureau of Standards, U.S. Department of Commerce; National Fire Protection Association; National Safety Council; Producers' Council, Inc; U.S. Department of Agriculture, Forest Products Laboratory; U.S. Department of Health, Education, and Welfare, Public Health Service; U.S. Department of Labor, Bureau of Labor Standards.

• "In preparation for a European vacation, I went shopping for a dress that would be serviceable, wrinkle-resistant, and yet pretty enough to show off an American tourist," writes Mary Tossetti, member of the American Standards Association's staff. "As I was looking through the rack of dresses, I noticed a pretty print just the color I could use. When I looked closer, I was pleased to see that the material looked as though it might do. However, in this day of varied synthetics I was not sure just what it might be, so I began looking for tags to see if a label might help identify it for me. Sure enough, one was easily visible and distinctly marked 'Acetate and Nylon.' I read further, and to my surprise and delight, I was informed that this material met with and might even exceed specifications as set forth in American Standard L22. Now I did not have to guess at what I was buying. The guesswork had been removed. I felt confident in purchasing that dress. And, oh, yes, the dress did look nice on me."

• The Industrial Commission of Colorado has acted officially to reaffirm its approval of American Standard safety codes for use in Colorado. A number of other safety standards were included in the official resolution. The resolution specifically mentions "the codes heretofore or hereafter promulgated, approved, adopted, and published by the American Standards Association."

• Brightness standards for use in achieving uniform color reproduction in television tubes have been made available by the National Bureau of Standards in cooperation with the Joint Electron Tube Engineering Council of the Radio-Electronics-Television Manufacturers Association. Each set consists of three standards — red, green, and blue — closely matching in spectral energy the three phosphors which in the tube act together to produce various colors in the image. The standards are used to calibrate instruments for measuring the color and brightness of the phosphors.

The design and calibration of the standards were performed by M. A. Belknap, V. I. Burns, D. B. Judd, and R. P. Teele of the Bureau staff. Data on the spectral energy distributions emitted by the phosphors used in color television tubes were supplied by a subcommittee of the Council. From these data one set of standards was designed and built. These are retained at the Bureau as master standards and are used to calibrate the standards supplied to industry.

Sets of the standards are available from the Photometry and Colorimetry Section, National Bureau of Standards, Washington 25, D.C., at $250.00 a set. To facilitate their use, a detailed report of their design and calibration is included with each set.

• The series of articles by S. P. Kaidanovsky on materials standards and specifications, published in *Materials in Design Engineering,* have now been issued as a reprint. The six articles covered government and national standards for materials; iron and steels; nonferrous metals; plastics and rubber; nonmetallics (except plastics and rubber); and finishes and coatings. In addition to a discussion of the work being done on standards under these various headings, Mr Kaidanovsky included lists of standards available and the organizations from which they can be obtained.

Copies of the reprint can be obtained from *Materials in Design Engineering,* 430 Park Avenue, New York 22, N. Y., at 75 cents each up to a quantity of nine copies, and 60 cents each for ten or more copies.

• The American Standard for plain washers—the ubiquitous metal rings used in machinery, autos, and household items—has appeared in a revised edition. Published by The American Society of Mechanical Engineers, the revision has the approval of the American Standards Association.

Included for the first time are "Type B" washers. These have a more rigidly controlled tolerance in all dimensions than the usual washers designated Type A, and are meant to be used where clearance between parts is very small and must be closely controlled, as in jet engines, for example. The Type B washers, in narrow, regular, and wide series, are listed in a table that permits selection by nominal screw or bolt size, as well as thickness and diameter.

Type A washers are listed in ascending order of inside and outside diameters and thickness only, since their application is more general.

The standard for plain washers is jointly sponsored by ASME and the Society of Automotive Engineers. Since 1925, when the first committees were formed at the request of the U. S. War Department, the project has been under the procedures of the American Standards Association.

Copies of American Standard B27.2-1958, Plain Washers, are available at $1.00 per copy.

• The American Standards Association has lost a good friend with the death of Herb Reinhard, for 27 years secretary of the International Acetylene Association. Mr Reinhard died May 23. He had been particularly interested in safety standards for welding, and was a member of the Sectional Committee on Safety in Electric and Gas Welding and Cutting Operations, Z49. He also took an active part in the work of other safety committees, including those on the identification of piping systems, accident prevention signs, marking of compressed gas cylinders, and industrial hygiene. He had been a member of the Safety Standards Board since 1944, and an alternate on Standards Council since 1955.

• A new American Standard for Microscope Objective Thread has been approved by the American Standards Association and published by The American Society of Mechanical Engineers.

The new standard, designated ASA B1.11-1958, covers the screw thread used for mounting the objective assembly to the body or lens turret of microscopes. It is one of the projects conducted in line with the program of unifying screw threads among the inch-using countries.

The screw thread specified in the new standard is based on the screw thread adopted by the Royal Microscopical Society of Great Britain and it is intended to be interchangeable with the British thread.

The British thread, generally known as the "RMS Thread," which has been widely accepted as the basic standard for microscope objective mountings, has now found formal recognition in the United States through the approval as an American Standard.

Even though the thread is used primarily for microscope objective mountings, it is also recommended for other optical assemblies of microscopes and associated apparatus, such as photomicrographic equipment.

The standardization project was conducted by Sectional Committee B1 of the American Standards Association under the joint sponsorship of the Society of Automotive Engineers and The American Society of Mechanical Engineers.

Copies of American Standard B1.11-1958 are available at $1.00 each.

FROM OTHER COUNTRIES

Members of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. Titles are given here in English, but documents are in the language of the country from which they were received. An asterisk * indicates that the standard is available in English as well. For the convenience of readers, the standards are listed under their general UDC classifications. In ordering copies of standards, please refer to the number following the title.

621.882 SCREW FIXING. BOLTS NUTS. WASHERS

Austria (ONA)

Metric screw thread, nominal diameter 0.3 to 68mm — ÖNORM M 1501
Hexagon head through-bolts with long thread — ÖNORM M 5108
Plain washers — ÖNORM M 5288

Belgium (IBN)

Design form of ISO screw thread — NBN 402
Design form of ISO metric screw thread for nominal diameters from 0.25 to 5mm — NBN 410

Czechoslovakia (CSN)

Screw threads for self-tapping screws — CSN 01 4068
4 stds for self-tapping screws with different heads — CSN 02 1226/9
8 stds for screws with special thread for use on steel sheets — CSN 02 1232/9
7 stds for various types of bolts — CSN series 02 12

France (AFNOR)

Reinforced spring washers for railways — NF F 50-001

Germany (DNA)

Double acme-type thread for railroad cars — DIN 263
Collar nuts — DIN 35006
Metric screw threads — DIN 40404
Turnbuckle for stay wire — DIN 48323
Hexagon head screw with relieved shank — DIN 7964
Hammer-head bolts — DIN 7992
Size of slots holding white metal lining in railroad car bearings — DIN 5504
Collar nuts — DIN 35338
Round screw thread with clearance and steep flank for railroad rolling stock — DIN 262
Spring lock washers — DIN 43699
Whitworth threads for pipes and fittings — DIN 2999
2 stds for testing screw threads of railroad bolts — DIN 5606

India (ISI)

Mild steel square or hexagon head coach screws with gimlet points — IS 1120

Netherlands (HCNN)

Unified screw thread. Coarse. Tolerances — NEN 1250
Unified screw thread. Fine. Tolerances — NEN 1320
ISO screw thread. Diameters 0.25 up to and including 5mm — NEN 1650

Norway (NSF)

Pipe threads — NS 70A

Roumania (CSS)

5 stds for wood screws with different heads — STAS 1451/5-56
Lockwashers, different types — STAS 2241-56
Screws and bolts, nomenclature — STAS 4228-56
Machine screws with recessed hexagonal head — STAS 5144-56
2 stds for thumb screw with knurled head — STAS 5302/3-56
Ring gage for external metric thread — STAS 5319-56
Plug gage for internal metric gage — STAS 5321-56
2 stds for knurled nuts — STAS 5436/7-56

Spain (IRATRA)

Self-tapping hexagonal head screw — UNE 17015
Self-tapping screws with round heads — UNE 17011

Yugoslavia (JUS)

9 stds for different bolts, nuts, pins, metric thread — JUS M series B1
Metric screw threads 1:16 taper — JUS M BO 017
Edison threads, limit sizes — JUS M BO 380

621.9 TOOLS, MACHINE TOOLS, MACHINING

Belgium (IBN)

Cross sections of steel for tools (lathes and planing machines) — NBN 135
Centers of machine-tools — NBN 141
Tool-holders for lathes — NBN 404
Machine reamers with Morse taper — NBN 484
Shrinking tapers for spindles of drilling machines — NBN 486

Bulgaria

Dies, round, for metric and Bulgarian inch thread — BDS 983-56
Drill presses, vertical, checking for accuracy of — BDS 2561-56

China

15 stds for taps and dies, metric and Whitworth — CNS 301/15 B 141/55

Czechoslovakia (CSN)

3 stds for metal working machine tools, method of checking for accuracy — CSN 20 0323/4, 20 0312

Germany (DNA)

2 stds for die sinking cutters, straight and taper — DIN 1889
5 stds for milling cutter arbors with Morse taper shanks — DIN 2087, 6360/2,-7
Collet chucks and taper sleeves, diameter up to 46mm — DIN 6341

Hungary (MSZH)

3 stds for high speed steel-tipped turning tools — MSZ 1295, 1297, 1299-56
7 stds for different shape single point cutting tools — MSZ 1972/8-56
6 stds for over-all dimensions of machine tools: Shaper, drilling, planing and grinding — MSZ 5023/4, 5026 5081/3-56
9 stds for milling cutter adapter arbors and sleeves with Morse or metric taper shanks — MSZ 8567/75-56

Italy (UNI)

Size and classification of material used for manufacturing abrasive wheels — UNI 3898
18 stds for different milling cutters and reamers — UNI 3899 thru 3916
2 stds for twist drills, straight and taper shanks — UNI 3980/1
2 stds for blades for metal-cutting hack saws — UNI 3999/4000

Poland

Axle grinding lathe — PN 57/M-55306
Single-point cutting tools for automatic turret lathes — PN 57/M-58673
Saw sharpening flat files — PN 57/M-64625
4 stds for different Swiss pattern files — PN 57/M-64695/8
Metal forging power hammer — PN 57/M-68012
Band saws, carpenters', std sizes — PN D-56104
5 stds for basic over-all dimensions of certain machine tools — PN M-55301-14, 23/6
4 stds for checking for accuracy of machine tools — PN M-55651/3-86
Grinding wheels, flat — PN M-59150
3 stds for different forms of needle-files — PN M-64689/91
6 stds for different parts of stamping presses — PN M-66146/7, 66180, 66190, 66191/2
9 stds for different single-point cutting tools — PN M-58670/8
Saw sharpening files — PN M-64620
2 stds for steam-pneumatic forging hammers — PN M-68010/1

Roumania (CSS)

3 stds for different drill-press jigs — STAS 1228/30-57
3 stds for different carpenter's plane — STAS 5634/6-57

Spain (IRATRA)

4 stds for drill presses — UNE 15511/2, 15513 hl, 15521

United Kingdom (BSI)

Fireman's axe with ash handle — BS 2957:1958

USSR

Lathe jigs, screwing (2 stds) — GOST 1589/90-57
Knurled-head nuts for lathe — GOST 3383-57
3 stds for different screwing lathe devices — GOST 3388/90-57

Yugoslavia (JUS)

45 stds for washers, tool squares, tommy bolts, levers, handles, clamps, handwheels and similar machine tool appliances — JUS series K.G3

629.113 MOTOR CARS. AUTOMOBILE ENGINEERING

Germany (DNA)

Valve details for automobile tire tubes — DIN 7757
Straight valves for tubeless tires — DIN 7782
Nomenclature of automobile parts in English, French, German and Russian — DIN 70023
Gearshift positions on motor cars — DIN 73011

Israel (SII)

Automobile spare parts: Brake lining — SI 224
Automobile spare parts: Sealing cups for hydraulic brakes — SI 225

Japan (JISC)

3 stds for performance test method for gasoline and Diesel engines of motor cars JIS D 1003/5
2 stds for automobile directional indicators JIS D 5707/8

Spain (IRATRA)

Heavy oil injectors, mounting dimensions UNE 10028
Bayonet lamp sockets for automobiles UNE 26099

Yugoslavia (JUS)

2 stds for marking engines and chassis and definition of motor vehicles JUS M NO 011/2
Motor vehicle glossary in four languages: Serbian, English, French and German JUS M NO 050

669 METALLURGY

Australia (SAA)

Diamond pyramid hardness testing of metals B 106-1957
Methods for the analysis of iron and steel: Manganese in plain carbon steels, low alloy steels and cast iron K 1 Part 10-1957

Germany (DNA)

Special brass, composition of and rules for use DIN 17661

India (ISI)

Chemical analysis of antimony IS 1047

Italy (UNI)

Mechanical test of metals, determination of yield point UNI 3918
Fatigue testing of metals at room temperature, symbols, definitions UNI 3964

Portugal (IGPAI)

Metals, Rockwell hardness test of NP-141

Roumania (CSS)

5 stds for brass sheets, strips, bars, etc STAS 289/93-57
3 stds for seamless steel pipes, dimensions and general requirements STAS 404/5, 530-56
2 stds for copper sheets and bands STAS 426/7-56
Malleable cast iron STAS 569-56
Carbon steel rods, three grades STAS 2880-56

Spain (IRATRA)

Seamless copper-zinc tubes, drawn, technical requirements for UNE 37107
Cold-drawn round copper bars for general use UNE 37111

United Kingdom (BSI)

Anodized aluminum BS 1615-1958

669.1 FERROUS METALS

Czechoslovakia (CSN)

2 stds for cast iron, re-melted scrap CSN 32 1220 CSN 42 2110
Structural steel 17061, chemical composition CSN 41 7061
Structural steel 17225, chemical composition CSN 41 7225
6 stds for different grades of tool steel CSN series 41 9
Structural components in grey iron castings, general survey CSN 42 0461

Germany (DNA)

Bulb strip steel shapes DIN 1581
Steel sheets, general DIN 1620

Hungary (MSZH)

Drawn carbon and alloy steel wires and bars MSZ 4369-56, sheet 1/3
Low alloy wear-resistant steels, different grades MSZ 6241-57
High strength steel alloy for bridge and vehicle construction MSZ 6280-57

India (ISI)

High tensile structural steel IS 961

Mexico (DGN)

Nomenclature of terms used in thermal treatment of steel DGN B 32-1958
Steel plates used in manufacture of portable tanks for liquid petroleum gas DGN B 42-1957
Nomenclature of terms used in thermal treatment of metals DGN B 89-1958

Poland

Carbon- and alloy steel sheets, heavy PN 57/H-92135
Tool steel bars PN 57/H-93007
Tool steel, classification PN H-85020

Roumania (CSS)

Carbon steel hot-rolled wire STAS 563-57
Carbon steel castings STAS 600-57

United Kingdom (BSI)

Whiteheart malleable iron castings BS 309:1958

USSR

Steel sheets, for electrical engineering, list of standard marks GOST 802-58
Structural steel beams, rolled, standard sizes GOST 8239-56
Steel channels, type A, rolled, basic sizes GOST 8240-56
Heavy steel sheets, perforated GOST 8706-58

669.2 NON-FERROUS METALS

Canada (CSA)

Codes for alloy and temper designations of non-ferrous metals and alloys H.1 series-1958

Czechoslovakia (CSN)

5 stds for copper and copper alloy sheets and strips, hot and cold rolled CSN 42 1316 CSN 42 8302,-05/6,-43
Round aluminum and aluminum alloy wire, cold-drawn, for riveting CSN 42 1421

Germany (DNA)

Aluminum alloys DIN 1725

Israel (SII)

Electroplated coatings of nickel and nickel-chromium S.I. 258*

Japan (JISC)

7 stds (bound together) for different aluminum rolled products JIS series H 41

Spain (IRATRA)

Phosphor bronze ("Custan"), solid bars, forged and drawn, technical requirements UNE 37113
Copper aluminum ("Cual") plates and strips, cold-rolled, technical requirements UNE 37114
3 stds for different aluminum and aluminum alloy bars, cold- and hot-finished UNE 38044/6
2 stds for aluminum and aluminum alloy round tubes, cold- and hot-finished UNE 38057/8
2 stds for light aluminum alloys for moulding UNE 38201/2
Copper, hexagonal and octogonal bars, cold-drawn, with sharp edges for general use UNE 37112

676 PAPER AND PULP INDUSTRY

Austria (ONA)

Hard paper, hard fabric ÖNORM C 9510

Japan (JISC)

Glossary of terms for paper pulp JIS P 0001
Sizes of paper JIS P 0138
2 stds for mechanical testing of paper JIS P 8125/6

Netherlands (HCNN)

Paper, determination of ash content NEN 2152
Paper sizes NEN 381

Poland

Cellulose cotton wool (lignin) PN-57/P-96050

Portugal (IGPAI)

Paper, ash content NP-36
Paper, moisture content NP-35
Paper, nomenclature and definitions of properties NP-50

Roumania (CSS)

Filter paper for qualitative analysis STAS 5613-57
Insulating paper for flexible tubing STAS 5614-57

Union of South Africa (SABS)

Standard specification for corrugated board containers for foods SABS 456-1957

United Kingdom (BSI)

pH value of aqueous extracts of paper BS 2924:1957
Absorbency test for bibulous paper BS 2916:1957
Application of statistics to paper testing BS 2987:1958
Testing the strength of wet paper BS 2922:1958

677 TEXTILE AND CORDAGE INDUSTRY

Germany (DNA)

White Angora rabbit wool, definition and classification of DIN 60407

India (ISI)

Methods for estimation of moisture, total size or finish, ash and fatty matter in grey and finished cotton textile materials IS 199
Determination of color fastness of textile materials to day light IS 686
3 stds on different types of manila rope IS 1084/6

Mexico (DGN)

5 stds for threads of different mixtures of wool, cotton, acetate and rayon fibers DGN A 35/9-1957
Dyeing and printing of rayon and acetate fabrics DGN A 40-1957
Cotton waste used in the manufacture of mattresses and similar DGN A 41-1957

Spain (IRATRA)

Spinning and twisting: designation of number, direction and value of twists UNE 40018

Union of South Africa (SABS)

Standard specification for terry towels and terry towelling SABS 577-1956
Standard specification for worsted whipcord SABS 583-1957
Standard specification for woollen overcoating SABS 588-1957

United Kingdom (BSI)

Flax, jute and hemp webbings BS 2958:1958
Test for dimensional stability of warp-knitted nylon fabrics BS 2959:1958
Dimensions of flyer bobbins and skewers BS 1836:1958

744 TECHNICAL DRAWINGS

Czechoslovakia (CSN)

Graphical symbols used on power distribution diagrams CSN 38 0451

France (AFNOR)

Technical drawings of gears NF E 04-113

Israel (SII)

Machine drawings: Gears SI 241

AMERICAN STANDARDS UNDER WAY

Status as of September 18, 1958

Legend — Standards Council — *Approval by Standards Council is final approval as American Standard; usually requires 4 weeks.* Board of Review — *Acts for Standards Council and gives final approval as American Standard; action usually requires 2 weeks.* Standards Board — *Approves standards to send to Standards Council or Board of Review for final action; approval by standards boards usually takes 4 weeks.*

BUILDING AND CONSTRUCTION

In Standards Board

Gypsum Wallboard Finishes, Specifications for, A97.1- (Revision of A97.1-1953)
Sponsors: American Institute of Architects; Gypsum Association

Installation of Glazed Ceramic Wall Tile in Cement Mortars, Specifications for, (Including Requirements of Related Divisions), A108.1-

Installation of Ceramic Mosaic Tiles in Cement Mortars, Specifications for, (Including Requirements of Related Divisions), A108.2-

Installation of Quarry Tile and Pavers in Cement Mortars, Specifications for, (Including Requirements of Related Divisions), A108.3-
Sponsor: Tile Council of America

CHEMICAL INDUSTRY

In Standards Board

Common Name for the Pest Control Chemical *p*-chlorobenzyl *p*-chlorophenyl sulfide, (chlorbenside), K62.20-
Sponsor: U. S. Department of Agriculture

DRAWINGS, SYMBOLS, AND ABBREVIATIONS

In Standards Board

American Drafting Standards Manual, Section 9, Forgings, Y14.9-
Sponsors: American Society of Mechanical Engineers; American Society for Engineering Education

ELECTRIC AND ELECTRONIC

American Standards Approved

Definitions of Electrical Terms (Partial revision of C42-1941)
Group 15, Transformers, Regulators, Reactors, and Rectifiers, C42.15-1958
Group 50, Electric Welding and Cutting, C42.50-1958 (Revision of C42.50-1956)
Sponsor: American Institute of Electrical Engineers

In Board of Review

Current-Limiting Reactors, Requirements, Terminology, and Test Code for, C57.16- (Revision of C57.16-1956)
Sponsor: Electrical Standards Board

In Standards Board

Pool-Cathode Mercury-Arc Power Converters, C34.1- (Revision of C34.1-1949)
Sponsor: American Institute of Electrical Engineers

14-Watt T-12 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.403- (Revision of C78.403-1951)

15-Watt T-8 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.404- (Revision of C78.404-1951)

15-Watt T-12 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.405- (Revision of C78.405-1951)

20-Watt T-12 Preheat Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.406- (Revision of C78.406-1955)

32-Watt T-10 12-Inch Circular Preheat-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.413- (Revision of C78.413-1951)

40-Watt T-10 16-Inch Circular Rapid-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.415-

22-Watt T-9 8-Inch Circular Preheat-Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.416-

40-Watt T-12 Rapid Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.700-

96-Inch (800 ma) T-12 Rapid Start Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.702-

72-Inch T-12 Rapid Start (Recessed Double Contact) Fluorescent Lamp, Dimensional and Electrical Characteristics of, C78.703-
Sponsor: Electrical Standards Board

Glass Bulbs Intended for Use with Electron Tubes and Electric Lamps, Nomenclature for, C79.1- (Revision of C79.1-1954)
Sponsor: Electrical Standards Board

Fluorescent Lamp Ballasts, Specification for, C82.1- (Revision of C82.1-1956)
Sponsor: Electrical Standards Board

Reaffirmation Being Considered

Molded Glass Flares Intended for Use with Electron Tubes and Electric Lamps, Nomenclature for, C79.2-1954
Sponsor: Electrical Standards Board

HIGHWAY TRAFFIC

In Standards Board

Adjustable Face Traffic Control Signal Head Standards, D10.1- (Revision of D10.1-1951)

Pre-Time Fixed Cycle Traffic Signal Controls, D11.1- (Revision of D11.1-1943)

Traffic-Actuated Traffic Signal Controllers and Detectors, Specifications for, D13.1- (Revision of D13.1-1950)
Sponsor: Institute of Traffic Engineers

MATERIALS AND TESTING

In Standards Board

Specific Gravity and Absorption of Fine Aggregate, Method of Test for, ASTM C 128-57; AASHO T 84-57; ASA A 37.6-
[Revision of ASTM C 128-42; AASHO T 84-45; ASA A37.6-1943 (R1948)]

Making and Curing Concrete Compression and Flexure Test Specimens in the Field, Method of, ASTM C 31-57; AASHO T 23-57; ASA A37.17-
(Revision of ASTM C 31-55; AASHO T 23-49; ASA A37.17-1957)

Securing, Preparing, and Testing Specimens from Hardened Concrete for Compressive and Flexural Strengths, Methods of, ASTM C 42-57; AASHO T 24-57; ASA A37.20- (Revision of ASTM C 42-49; AASHO T 24-49; ASA A37.20-1951)

Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading), Method of Test for, ASTM C 78-57; AASHO T 97-57; ASA A37.22- (Revision of ASTM C 78-49; AASHO T 97-49; ASA A37.22-1951)

Lightweight Pieces in Aggregates, Method of Test for, ASTM C 123-57T; AASHO T 113-57; ASA A37.25-
(Revision of ASTM C 123-53T; AASHO T 113-45; ASA A37.25-1957)

Calcium Chloride, Specifications for, ASTM D 98-56T; AASHO M 144-57; ASA A37.37- (Revision of ASTM D 98-48; AASHO M 144-55; ASA A37.37-1951)

Moisture-Density Relations of Soil-Cement Mixtures, Methods of Test for, ASTM D 558-57; AASHO T 134-57; ASA A37.50- (Revision of ASTM D 558-44; AASHO T 134-45; ASA A37.50-1948)

Wetting-and-Drying Test of Compacted Soil-Cement Mixtures, Methods of, ASTM D 559-57; AASHO T 135-57; ASA A37.51- (Revision of ASTM D 559-44; AASHO T 135-45; ASA A37.51-1948)

Freezing-and-Thawing Tests of Compacted Soil-Cement Mixtures, Methods of, ASTM D 560-57; AASHO T 136-57; ASA A37.52- (Revision of ASTM D 560-44; AASHO T 136-45; ASA A37.52-1948)

Emulsified Asphalt, Specifications for, ASTM D 977-57; ASA A37.55-
(Revision of ASTM D 977-53; ASA A37.55-1957)

Cement Content of Soil-Cement Mixtures, Method of Test for, ASTM D 806-57; AASHO T 144-57; ASA A37.58-
(Revision of ASTM D 806-47; AASHO T 144-49; ASA A37.58-1948)
Sponsor: American Society for Testing Materials

MECHANICAL

American Standard Approved

Refrigeration Terms and Definitions, B53.1-1958
Sponsor: American Society of Refrigerating Engineers

In Board of Review

Leaf Chain, B29.8-
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

In Standards Board

Inserted Blade Milling Cutter Bodies, B5.23-

Driving and Spindle Ends for Portable Air and Electric Tools, B5.38-
Sponsors: American Society of Mechanical Engineers; National Machine Tool Builders' Association; Society of Automotive Engineers; Metal Cutting Tool Institute; American Society of Tool Engineers

Slotted and Recessed Head Wood Screws, B18.6.1- (Revision of B18.6.1-1956)
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

MISCELLANEOUS

American Standard Approved

Preferred Numbers, Z17.1-1958 [Revision of Z17.1-1936 (R1951)]
Sponsor: American Institute of Electrical Engineers

SAFETY

American Standard Approved

Mechanical Refrigeration, Safety Code for, B9.1-1958 (Revision of B9.1-1953)
Sponsor: American Society of Refrigerating Engineers

Withdrawal Being Considered

Leather Aprons, L18.1-1944
Leather Cape Sleeves and Bibs, L18.2-1944
Leather Leggings (Knee Length), L18.3-1944
Leather Coats, L18.4-1944
Leather Overalls, L18.5-1944
Leather Sleeves, L18.6-1944
Welders Leather Gauntlet Gloves, L18.7-1944
Protective Leather Gloves, Steel Stapled, L18.8-1944
Asbestos Gloves, L18.9-1944
Asbestos Gloves, Leather Reinforced, L18.10-1944
Asbestos Mittens, L18.11-1944
Asbestos Mittens, Leather Reinforced, L18.12-1944
Asbestos Aprons (Bib Type), L18.14-1944
Asbestos Cape Sleeves and Bibs, L18.15-1944
Asbestos Leggings (Knee and Hip Length), L18.16-1944
Asbestos Coats, L18.17-1944
Leather One-Finger Mittens, L18.18-1945
Leather Mittens, L18.19-1945
Asbestos One-Finger Mittens, L18.20-1945
Flame-Resistant Fabric Aprons (Bib Type), L18.21-1945
Flame-Resistant Fabric Leggings (Knee and Hip Length), L18.22-1945
Flame-Resistant Fabric Coats, L18.23-1945
Flame-Resistant Fabric Pants, L18.24-1945
Flame-Resistant Fabric Coveralls (Jumper Suits), L18.25-1945
Flame-Resistant Fabric Spats, L18.26-1945
Leather Spats, L18.27-1945
Asbestos Spats, L18.28-1945
Chemical-Resistant Gloves, L18.29-1945
Sponsor: Industrial Safety Equipment Association

PHOTOGRAPHY

In Standards Board

16mm and 35mm Microfilms on Reels or in Strips, Practice for, PH5.3- (Revision of Z38.7.8-1947)
Sponsor: American Library Association

WOOD AND WOOD PRESERVATIVES

In Standards Board

Testing Small Clear Specimens of Timber, ASTM D 143-52; ASA O4.1- (Revision of ASTM D 143-27; ASA O4a-1927)

Establishing Structural Grades of Lumber, Methods for, ASTM D 245-57T; ASA O4.3-

Wood Poles, Methods of Static Tests of, ASTM D 1036-55T; ASA O4.4-

Definitions of Terms Relating to Timber, ASTM D 9-30; ASA O4.5-

Domestic Hardwoods and Softwoods, Nomenclature of, ASTM D 1165-52; ASA O4.6-

Round Timber Piles, Specifications for, ASTM D 25-55; ASA O6.1- (Revision of ASTM D 25-37; ASA O6-1939)

Veneer, Plywood, and Other Glued Veneer Constructions, Methods of Testing, ASTM D 805-52; ASA O7.1-

Definitions of Terms Relating to Veneer and Plywood, ASTM D 1038-52; ASA O7.2-

Evaluating the Properties of Building Fiberboards, Methods of Test for, ASTM D 1037-56T; ASA O8.1-

Wooden Paving Blocks for Exposed Pavements, Specifications for, ASTM D 52-20; ASA O9.1-

Creosoted End-Grain Wood Block Flooring for Interior Use, Specifications for, ASTM D 1031-55; ASA O10.1-

Modified Wood, Specifications for, ASTM D 1324-57T; ASA O12.1-
Sponsor: American Society for Testing Materials

Reaffirmation Requested

Static Tests of Timbers in Structural Sizes, Methods of, ASTM D 198-27; ASA O4b-1927
Sponsor: American Society for Testing Materials

PUBLISHED STANDARDS NOW AVAILABLE

If your company is a member of the American Standards Association, you are entitled to receive membership service copies of these newly published American Standards. Find out who your ASA contact is in your company. Order your American Standards through him. He will make sure your company receives the membership service to which it is entitled.

CHEMICAL INDUSTRY

Addenda (K62.1a-1958) to American Standard Procedure for the Acceptance of an American Standard Common Name for a Pest Control Chemical, K62.1-1956 $0.25
Sponsor: U. S. Department of Agriculture

DRAWINGS, SYMBOLS, AND ABBREVIATIONS

Graphical Symbols for Fluid Power Diagrams, Y32.10-1958 $1.50
Sponsors: American Society of Mechanical Engineers; American Institute of Electrical Engineers

MATERIALS HANDLING

Metal Drums and Pails, Specifications for:
55-Gallon Tight Head Universal Drum, ICC-17E, MH2.1-1958
55-Gallon Full Open Head Universal Drum, MH2.2-1958
55-Gallon Tight Head Universal Drum, ICC-5B, MH2.3-1958
55-Gallon Tight Head Universal Drum, ICC-17C, MH2.4-1958
55-Gallon Full Open Head Universal Drum, ICC-17H, MH2.5-1958
30-Gallon Tight Head Universal Drum, ICC-17E, MH2.6-1958
16-Gallon Tight Head Universal Drum, MH2.7-1958
16-Gallon Full Open Head Lug Cover Universal Drum, MH2.8-1958
5-Gallon Tight Head Universal Drum, ICC-17E, MH2.9-1958
5-Gallon Lug Cover Universal Pail, ICC-37A, MH2.10-1958
(Bound together) $1.00
Sponsor: Steel Shipping Container Institute

MECHANICAL

Knurling, B5.30-1958 (Revision of B5.30-1953) $1.50
Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders' Association; American Society of Mechanical Engineers; Society of Automotive Engineers

Plain Washers, B27.2-1958 (Revision of B27.2-1953) $1.00
Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers

PHOTOGRAPHY

Curl of Photographic Film, Methods for Determining the, PH1.29-1958 $0.80

Film in Rolls for Recording Instruments, Graphic Arts, Photo Typesetting, Portrait, X-ray and Related Use, Dimensions for, PH1.30-1958 $0.35
Sponsor: Photographic Standards Board

8mm Motion-Picture Projection Reels, PH22.23-1958 (Revision of Z22.23-1941) $0.25

16mm Motion-Picture Film, 1R-2994, Dimensions for, PH22.109-1958 $0.25

16mm Motion-Picture Film, 2R-2994, Dimensions for, PH22.110-1958 $0.25
Sponsor: Society of Motion Picture and Television Engineers

PIPE AND FITTINGS

Forged or Rolled Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service, Tentative Specifications for, ASTM A 105-57T; ASA G17.3-1958 (Revision of ASTM A 105-46; ASA G17.3-1947) $0.30
Process, manufacturing practice, heat treatment, composition, tensile properties and tensile test requirements for two grades of forged or rolled steel pipe flanges, forged fittings and flanges and parts for high temperature service. Dimensions are not included.
Sponsor: American Society for Testing Materials.

WHAT'S NEW ON AMERICAN STANDARDS PROJECTS

Photo — Pipe Line Industry Magazine

Code for Pressure Piping, B31—

Sponsor: The American Society of Mechanical Engineers

Picture above shows officers of Subcommittee 8 on Gas Transmission and Distribution Piping: (left to right) Chairman—John H. Carson, vice-president, East Ohio Gas Company; Vice-Chairman—Walter H. Davidson, Transcontinental Gas Pipe Line Corporation; John F. Eichelmann, El Paso Natural Gas Company; and B. C. White, Warren Petroleum International Corporation. The subcommittee recently completed a revision of Section 8, which has been approved by the sectional committee and by the sponsor, and is about to be submitted to the American Standards Association. This is part of a revision of the entire Code that is now under way. Each Code section is to be published in a separate document. Subcommittee 8 has now returned to its normal activity of answering requests for interpretation of Section 8 and trying to keep the section up to date.

Small Tools and Machine Tool Elements, B5—

Sponsors: American Society of Tool Engineers; Metal Cutting Tool Institute; National Machine Tool Builders Association; Society of Automotive Engineers; The American Society of Mechanical Engineers

A proposed American Standard on Accuracy of Vertical Drill Presses has been developed by Committee B5's Technical Committee 25, Accuracy of Machine Tools. Copies are now being circulated for comment.

The proposed standard consists of a series of drawings with instructions for securing the accuracy required, with acceptance tolerances. It covers vertical drill presses of the box and round column types, but excludes radial drills, special purpose drilling equipment, and presses using fully universal tables (tilt, rotate, swivel, etc).

Anyone interested may obtain copies free of charge by writing to Frank Philippbar, Standards Department, The American Society of Mechanical Engineers, 29 West 39 Street, New York 18, N.Y. All requests should be made on letterhead.

Radio and Electronic Equipment, C16—

Sponsor: Institute of Radio Engineers

An error has been found in Definitions of Terms on Radio Aids to Navigation, C16.26-1955. In Section 4 the definition of VAR (VHF Aural-Visual Range) should be changed to read: VAR (VHF Aural-Visual Range). A special type of vhf range providing a pair of Radial Lines of Position which are reciprocal in Bearing and are displayed to the pilot on a zero-center, left-right indicator. This facility also provides a pair of reciprocal Radial Lines of Position located 90° from the above visually-indicated lines and these are presented to the pilot as aural A-N radio range signals. The A-N aural signals provide a means for differentiating between the two visually-indicated lines (and vice versa).

Electric Lamps, C78—

Sponsor: Electrical Standards Board

Color specifications for fluorescent lamps, resulting from many years of active research, are to be published for a year's trial and study. Sectional Committee C78 has just approved the Proposed American Standard Specification for Fluorescent Lamp Chromaticities, C78.376, for publication. Center values and tolerances for cool white, warm white, white, and daylight colors have been established to assure that fluorescent lamps of the same color class will look alike.

Sizes of Shipping Containers, MH5—

Sponsors: The American Society of Mechanical Engineers; American Material Handling Society

Herbert H. Hall, materials handling consulting engineer, chairman of this new sectional committee, has been active for many years in both national and chapter activities of The American Society of Mechanical Engineers and the American Materials Handling Society. He is a past chairman of ASME's Materials Handling Division and of the Pittsburgh Chapters of ASME and AMHS, as well as national executive

Herbert H. Hall

vice-president of AMHS and several of its other national committees.

An MIT graduate in mechanical engineering, Mr Hall started his career as fire protection engineer with Factory Mutual Fire Insurance

Companies, Boston, Mass., and joined the Aluminum Company of America in 1919, where he served in many capacities at Alcoa's main office in Pittsburgh and at several of its plants, including assignments as industrial engineer, operating superintendent, commodity sales manager, mechanical and development engineer, chief works engineer, and assistant works manager. He retired from Alcoa in 1957. In his last few years at Alcoa and since then, Mr Hall has done considerable work in materials handling and over-all interplant logistics.

Fred Muller, Jr, senior research engineer of American Car and Foundry, Division of ACF Industries, Inc, is secretary of Committee MH5. Mr Muller is active in a broad range of key research and development positions in the field of transportation and has a wide background and knowledge of modern transportation media.

Since joining ACF Industries in 1949, Mr Muller has had experience as design engineer for diesel electric locomotives in the original light weight, high speed Talgo Train, and as assistant works manager of the Berwick, Pa., plant, ACF's largest car manufacturing facility.

Fred Muller, Jr

Mr Muller is a member of the Society of Automotive Engineers, The American Society of Mechanical Engineers, The American Ordnance Association, and the American Materials Handling Society.

by **Cyril Ainsworth**

DINNSA

(Does Industry Need a National Standards Agency?)

The technical aspects of standards development and approval, discussed previously in this column, are not the only constitutional objectives, and are not necessarily the dominant activities, of ASA. ASA's constitution gives as much attention to promotion and information as to technical operations.

Two provisions in the constitution bear on promotional operations:

"To serve as a clearinghouse for information on standardization work in the United States and foreign countries."

"To further the standardization movement as a means of advancing the national economy and to promote a knowledge of and the use of approved standards."

This big assignment clearly indicates that ASA's member-bodies believe it is essential for a central national organization to engage in a national effort to promote standardization in addition to promotion they themselves do.

The information and promotion activities of ASA are quite diversified. First, THE MAGAZINE OF STANDARDS, in which this column appears, is the only magazine published monthly in the United States exclusively devoted to standardization. It is a general news magazine, not an ASA house organ. Review the breadth of information and the facets of standardization covered in this issue to see how ASA is carrying out its mandate, and to judge the value of the magazine to executives, purchasing agents, and to design, production, and standards engineers everywhere!

Second, there is ASA's library service. Standards of all national standards bodies in the world are here available for review, the only service of its kind in the USA. Standards of national organizations, including those of many companies, can be examined for information purposes. Books and pamphlets discussing all phases of standardization and related subjects are on the library shelves. When opportunity is available, the library staff offers a search service to ASA members and others, but the extent of use of the library is taxing the ability of the staff to render the service requested.

Press releases, press conferences, and personal contacts, an ever-increasing activity of ASA, keep the trade, technical, and public press in constant touch with national and international standards work.

At the National Conference on Standards, held in the fall of each year, standards activities at the company, association, national, and international levels are presented and discussed during three days of meetings, an interchange of information and experience that becomes a valued part of technical literature on standardization in the published Proceedings of the conference.

Through the Company Member Conference, ASA also provides facilities for standards engineers of its 2200 company members to confer with one another on common problems. This is popular with standards men and ASA has profited greatly from recommendations for improvements in standards and for additional standards needed by the companies.

In its day-by-day operations, ASA's administrative, technical, and public relations staff, by telephone and correspondence, by discussion with individuals and organizations, in papers and articles and speeches, is constantly giving information on standardization. It gives information on standards work of technical societies, trade associations, and governmental, consumer, and public interest groups, as well as on the organization of ASA and the principles and philosophy underlying ASA operations.

Briefly, this is the way ASA is meeting its promotional obligations as spelled out in the two sections of the ASA constitution quoted. ASA's activities are restricted in extent and variety only by the limits of ASA's budget.

Organizations interested in standardization, even though not concerned with a particular standardization project, have a stake in these activities.

Get Aboard, Everybody; Get Aboard!

Preferred Standard 3,000 rev/min, 3-phase, 50 c/s Turbine-Type Generators (fifth edition, 1958, Part III), IEC Rec 34-3 $2.40

•

Steam Turbines, Part I: Specification, 1958, IEC Rec 45... $3.20

•

International Electrotechnical Vocabulary, Group 20: Scientific and Industrial Measuring Instruments (second edition), 1958 ..... $3.60

•

Lamp Caps and Holders, together with Gauges for the Control of Interchangeability, Supplement III, 1958, IEC Rec 61 ..... $1.20

•

Safety Requirements for Electric Mains-Operated Radio Receiving Apparatus, Amendment I, 1958, IEC Rec 65... $ .80
(Entire document, 1952 edition, including Appendix I, 1955, Appendix II, 1955, and Amendment I, 1958)..... $6.00

•

Methods of Test for Volume and Surface Resistivities of Electrical Insulating Materials, 1958, IEC Rec 93..... $2.40

•

Insulation Coordination, (second edition) 1958, IEC Rec 71.. $2.40

•

Radio-Frequency Cables, IEC Rec 96-1 ..... $3.00

•

Lateral-Cut Commercial and Transcription Disk Recordings, 1958, IEC Rec 98..... $2.40

•

Lightning Arresters, Part I: Non-Linear Resistor Type Arresters, 1958, IEC Rec 99-1..... $3.20

•

Rules for Auxiliary Machines on Motor Vehicles (Electric Motors and Generators), 1958, IEC Rec 101..... $2.40

•

Rules for the Electric Transmission of Vehicles with Diesel Engines (Main D.C. Motors and Generators), 1958, IEC Rec 102 ..... $3.00

For more than fifty years. producers and users of electricity have worked through the International Electrotechnical Commission, pooling their ideas and requirements to improve worldwide marketing of equipment and appliances. Now 33 countries are members of IEC. Their work has given the world 69 published IEC International Recommendations—guides that each country may use in its own national standards to eliminate international conflict.

TWELVE NEW IEC RECOMMENDATIONS AVAILABLE THIS YEAR

will keep you up to date in the world of electricity

Copies of all IEC Recommendations can be obtained from the American Standards Association, U.S. member of the International Electrotechnical Commission. For a complete list of published IEC Recommendations, write **the American Standards Association, 70 East 45 Street, New York 17, N.Y.**